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CLINICAL FEATURES, PATHOLOGY, AND THERAPY OF HEMOCHROMATOSIS

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The classic monograph written by Sheldon in 1935[1] crystallized knowledge of 311 cases of hemochromatosis and increased understanding of the clinical, pathological, and etiological features of this disease. Since that time, excellent studies of large series of cases of hemochromatosis have been reported. These include clinical and pathological reports,[2] clinical investigations of patients,[3] comparisons of hemochromatosis and hemosiderosis,[4] the association of aplastic anemia with hemochromatosis,[5] studies of iron metabolism,[6] and studies of radioactive isotopic iron absorption.[7] More recently, a rational treatment of hemochromatosis with repeated phlebotomy,[8] over a long period of time or with chelating agents,[9] which enhance the excretion of urinary iron, has been instituted.

This paper briefly reviews the literature on hemochromatosis, reports clinical and pathological data on 46 patients, and describes the discovery of two, or possibly three, groups of patients with hereditofamilial hemochromatosis.

CAUSES AND DEVELOPMENT

Little is known about the causes or the development of hemochromatosis. Malnutrition, alcoholism, toxins, cirrhosis of the liver, degeneration of erythrocytes, intoxication with heavy metals, diabetes mellitus, a congenital abnormality, and various endocrinological disturbances have been implicated as possible causative factors. The studies by Althausen and others[3b] demonstrate clearly that malnutrition is not a causative factor of hemochromatosis. Sheldon reviewed the various theories of this disease and logically considered hemochromatosis to be a congenital, inborn error of iron metabolism. Hemochromatosis has not been produced in animals, even in those that have cirrhosis of the liver, by the administration of iron. A diet low in calcium and high in phosphorus and iron produces hemosiderosis but not hemochromatosis.

Though extensive deposition of iron in tissues is a significant characteristic of hemochromatosis, this does not mean that local deposition of iron in the cells is the sole pathogenic factor. The amount of storage of iron in cases of transfusional hemosiderosis can be similar to that found in hemochromatosis; yet specific lesions, such as cirrhosis of the liver or atrophy of the pancreas, that are found in hemochromatosis are virtually absent in transfusional hemosiderosis.[4a] Many investigators have postulated that a disturbance of iron transfer across the mucosal barrier of the small intestine leads to an excessive absorption of food iron in patients having hemochromatosis. Recent studies by Chodos and others[10] indicate that patients with hemochromatosis who have not been treated absorb little radioactive inorganic iron and even less food iron; however, after many venesections, which deplete their body stores of excess iron, the same patients absorb considerably more radioactive iron than healthy subjects. These studies demonstrate conclusively that excess iron absorption is a major pathogenic

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factor in the production of hemochromatosis, but they do not explain how excess iron produces typical lesions of hemochromatosis.

CLASSIFICATION OF IRON STORAGE DISEASES

Gross and histopathological investigations clearly distinguish hemochromatosis from hemosiderosis. One of us (M. S. K.) has prepared a classification of iron storage diseases that differentiates between the several pathological states of iron storage.[11] According to this classification there are three types of hemochromatosis: (1) primary, (2) hereditofamilial, and (3) the type associated with a chronic anemia (usually a refractory anemia); and there are four types of hemosiderosis: (1) the type associated with malnutrition, (2) the type that results from multiple blood transfusions, (3) the type that follows therapy with iron, and (4) the type associated with megaloblastic, hemolytic, or refractory anemia. The classic type of hemochromatosis, primary hemochromatosis, is a disease that is found almost exclusively in men during the fifth or sixth decade, at which time an enlarged liver, diabetes mellitus, pigmentation of the skin (cutaneous melanosis), impotence, and loss of body hair, or various combinations of these manifestations, are pertinent clinical findings. A finely granular cirrhosis of the liver, fibrosis of the pancreas, and visceral melanosis are gross pathological findings. An unusual abundance of iron can be demonstrated invariably in the liver, pancreas, heart, stomach, and endocrine glands. Total body stores of iron are increased up to 58 gm. in hemochromatosis, as compared with a normal amount of about 4 gm. Death is usually due to either hepatic insufficiency or congestive heart failure. When such clinical or pathological findings are present in a family, a diagnosis of hereditofamilial hemochromatosis may be made.

TABLE 1.—*Gross Pathological Findings in Forty-Two Patients with Hemochromatosis*

Organ or Condition	Findings	Weight	
		Average	Range
Liver	Deep brown; finely granular cirrhosis	2,187 gm.	750-5,277 gm.
Spleen	Deep brown; hyaline perisplenitis; fibrosis	358 gm.	85-545 gm.
Heart	Deep brown	412 gm.	256-574 gm.
Ascites	Present in 26 cases	2,729 cc.	100-20,000 cc.
Esophageal varices	Present in 9 cases; ruptured in 4 cases	.....	.....
Kidneys	Normal color	384 gm.*	247-725 gm.*
Pleural effusion	Unilateral in 4 cases; bilateral in 30 cases	500 cc.	10-2,000 cc.
Pancreas	Deep brown; atrophic in 28 cases	.....	.....
Testes	Atrophic in 10 cases	.....	.....
Thyroid and adrenals	Brown	.....	.....

* Combined weight.

There is a group of patients in whom the pathological picture is identical to or indistinguishable from that of primary hemochromatosis and in whom a refractory anemia is also present. Sheldon, in his monograph,[1] never made reference to this type of hemochromatosis. Presumably, his failure to mention the coexistence of hemochromatosis and chronic anemia in the same patients is due to the fact that transfusions of blood were not used at that time to keep patients with refractory anemia alive for a prolonged period of time. We classify this type of the disease, often called secondary hemochromatosis,[6b] as hemochromatosis associated with chronic refractory anemia. When treatment consists of multiple transfusions of blood or of therapy with iron administered orally or parenterally, the pathological distinction between this type of hemochromatosis and hemosiderosis may be confusing; a number of investigators believe that this type of hemosiderosis is a transitional pathological state of hemochromatosis, but several studies have indicated that such transition is unlikely.

Hemosiderosis cannot be diagnosed clinically, but it is a pathological condition, defined as excessive iron storage in various tissues of the body, that does not produce gross lesions. In hemosiderosis, an abundance of iron is found in the liver and spleen, and, rarely, in the pancreas, heart, and endocrine glands. The amount of iron stored is much less than is deposited in the tissues in cases of hemochromatosis, except when 200 or more transfusions of blood have been administered to patients with refractory anemia. Even in transfusional hemosiderosis, the pathological criteria for making an exact diagnosis of hemochromatosis are absent.[4a] Hemosidero-

TABLE 2.—*Histological Differentiation of Hemochromatosis from Transfusional Hemosiderosis*

Condition	Hemochromatosis	Transfusional Hemosiderosis
Laennec's cirrhosis	Always present	Absent
Hemosiderin in:		
Liver		
Hepatic cells	Always present	Always present
Kupffer's cells	Always present	Always present
Bile ducts	Usually present	Often present
Stroma	Usually present	.....
Pancreas		
Acini	Always present	Usually absent
Ducts	Always present	Usually absent
Islets	Usually present	Usually absent
Stroma	Usually present	.....
Spleen	No absolute histological differentiation	.....
Lymph nodes, abdominal	Always present	Often present
Sweat glands and derma	Usually present	Often present
Renal tubules	Usually present	Often present
Gastric glands	Usually present	Usually absent
Myocardium	Usually present	Usually absent
Adrenal cortex	Usually present	Usually absent
Thyroid	Usually present	Usually absent
Parathyroid	Usually present	Often present

5. (*a*) Zeltmacher, K., and Bevans, M.: Aplastic Anemia and Its Association with Hemochromatosis, Arch. Int. Med. **75**: 395 (June) 1945. (*b*) Kark, R. M.: Two Cases of Aplastic Anaemia: One with Secondary Haemochromatosis Following 290 Transfusions in Nine Years, the Other with Secondary Carcinoma of the Stomach, Guy's Hosp. Rep. **87**: 343, 1937. (*c*) Block, M.; Bethard, W., and Jacobson, L.: Secondary Hemochromatosis, J. Lab. & Clin. Med. **40**: 781, 1952. (*d*) Schwartz, S. O., and Blumenthal, S. A.: Exogenous Hemochromatosis Resulting from Blood Transfusions, Blood **3**: 617, 1948. (*e*) Houston, J. C.: Haemochromatosis and Refractory Anaemia, Guy's Hosp. Rep. **100**: 355, 1951.

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sis may be associated with (1) starvation, protein depletion (kwashiorkor), or other nutritional syndromes, such as pellagra or sprue; (2) excessive transfusions of blood; (3) the administration of large amounts of iron orally or parenterally; or (4) megaloblastic, hemolytic, or refractory anemias.[11]

PATHOLOGICAL ASPECTS

A summary of the pertinent gross pathological findings in 42 cases of hemochromatosis is shown in table 1;

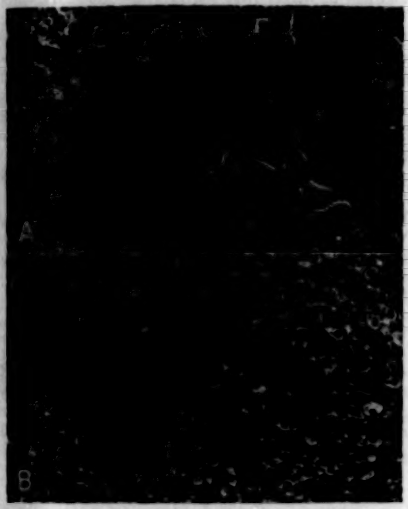

Fig. 1.—*A*, tissue obtained at needle biopsy of the liver in patient with hemochromatosis, showing cirrhosis (nodular regeneration, increased fibrous connective tissue, and hepatic cellular damage) and deposits of hemosiderin in hepatic cells, stroma, epithelium of bile ducts, and Kupffer's cells (Prussian blue, × 110). *B*, tissue obtained at needle biopsy of the liver in same patient after one and a half years of repeated phlebotomy (case 2). Note reduction in amount of hemosiderin (Prussian blue, × 150).

some findings that were diagnostic evidence of all types of hemochromatosis were finely granular cirrhosis of the liver, atrophy of the pancreas, pigmentation (melanosis) of the skin, and an enlarged spleen with chronic hyaline perisplenitis. In most instances, the parietal peritoneum, the stomach, and the small and large intestines were pigmented. The histological distinctions between hemochromatosis and transfusional hemosiderosis are given in table 2. Histologically, hemochromatosis can be diagnosed by the demonstration of a specific type of cirrhosis, characterized by: (1) necrosis of the hepatic cells, islands of nodular hepatic regeneration separated by characteristically broad bands of connective tissue with abundant deposits of hemosiderin in the hepatic cells, stroma, epithelium of the bile ducts, and Kupffer's cells (fig. 1*A*); (2) fatty infiltration and fibrosis of the pancreas, with abundant deposits of hemosiderin in the acini, ducts, islands of Langerhans, and connective tissue; and (3) abundant deposits of hemosiderin in the myocardial fibers, the reticuloendothelial system, and the gastric and endocrine glands. The demonstration of hemosiderin in the skin is presumptive evidence of hemochromatosis, but it is not diagnostic evidence. In our data, there was no correlation between diabetes mellitus and the presence of hemosiderin in the islands of Langerhans. Despite the massive accumulation of hemosiderin in all of the endocrine glands, endocrine dysfunction was not apparent except for diabetes mellitus and loss of libido. Little or no hemosiderin was present in the bone marrow; its presence did not appear to explain refractory anemia. The iron content of various organs in cases of hemochromatosis has been determined. Huge amounts of iron were present in the portal lymph nodes; these glands contained several hundred times the amount of iron found in control cases. As compared with normal values, the iron content was increased from 25 to 100 times in the liver, 10 to 80 times in the heart, 20 to 45 times in the stomach, and 20 to 50 times in the pancreas.[11]

CLINICAL FINDINGS

Primary Hemochromatosis.—The clinical features in 35 cases of primary hemochromatosis are listed in figure 2. In eight cases, this disease was not diagnosed until an autopsy was done; in these latent cases, a palpably

Symptoms at Onset	No. of Cases
Weakness	14
Diabetes	8
Ascites and edema	4
None	3
Pigmentation of skin	2
Abdominal pain	2
Weakness and dyspnea	1
Jaundice and ascites	1

Eventual Symptoms	No. of Cases
Diabetes	23
Dyspnea	20
Alcoholism	10
Abdominal pain	10
Indigestion	10
Gastrointestinal hemorrhage	5
Diarrhea	4
Peripheral neuritis	2
Epistaxis	2

Physical Findings on Hospital Admission	No. of Cases
Edema	29
Enlarged liver	28
Loss of weight	25
Pigmentation of skin	24
Ascites	23
Enlarged spleen	13
Jaundice	13
Enlarged heart	10
Pleural effusion	10
Testicular atrophy	9
None	7
Loss of hair	6
Spider angioma	5
Palmar erythema	3
Gynecomastia	3
Arterial hypertension	3
Caput medusae	1
Purpura	1

Complications	No. of Cases
Esophageal varices	8
Bronchopneumonia	7
Ruptured esophageal varices	3
Hepatoma	3
Cholelithiasis	3
Carcinoma (rectum)	1
Carcinoma (lip)	1
Gastric ulcer	1
Duodenal ulcer	1
Acute glomerulonephritis	1
Portal thrombosis	1
Chronic pancreatitis	1
Hemorrhagic gastritis	1
Cerebral thrombosis	1
Chronic pericarditis	1

Causes of Death	No. of Cases
Hepatic insufficiency	16
Congestive heart failure	11
Septicemia	2
Renal insufficiency	1
Bronchopneumonia	1
Tuberculous peritonitis	1
General peritonitis	1
Pulmonary edema	1
Acute circulatory collapse	1

Fig. 2—Clinical finding in 35 patients (34 men and 1 woman) with hemochromatosis. The age at death was 30 to 80 years (average 55) and the duration of disease 1 to 25 years (average 4 years).

enlarged liver, diabetes mellitus, and pigmentation of the skin were not recognized during life. In half of the 35 cases, diabetes mellitus had been present for a year or more prior to death. Usually ascites or jaundice were relatively late clinical findings, except in three patients who were alcoholics. Chronic alcoholism was noted in 18 cases. Loss of weight ranged from 10 to 55 lb. (4.5 to

25 kg.). Pigmentation appeared on the exposed areas of the body before the skin was involved generally; it was more commonly dark gray or slate-colored than bronze. Usually pigmentation of the skin had been present for several years, but most patients could not remember exactly when it had become noticeable. In the present series of cases, the incidence of uremia, pancreatic exocrine deficiency, and complications of diabetes mellitus, so commonly noted in the early descriptions of

Symptoms at Onset	No. of Cases	Eventual Symptoms	No. of Cases	Physical Findings on Hospital Admission	No. of Cases
Weakness	3	Dyspnea	6	Pallor	7
Dyspnea	1	Weakness	3	Loss of weight	6
Purpura	1	Diabetes	1	Enlarged liver	6
Abdominal pain	1	Alcoholism	1	Pigmentation of skin	5
Weakness and dyspnea	1	Abdominal pain	1	Edema	5
		Gastrointestinal hemorrhage	1	Ascites	3
		Indigestion	1	Jaundice	2
				Enlarged heart	3
				Purpura	2
				Pleural effusion	2
				Spider angioma	1
				Loss of hair	1
				Testicular atrophy	1
				Erythrodontia	1

Types of Anemia	No. of Cases	No. of Blood Transfusions (0.5 liter)	No. of Cases
Aplastic	4	25–50	2
Splenic	1	50–100	3
Hemolytic, acquired	1	100–150	1
Myelophthisic	1	250–300	1

Complications	No. of Cases	Causes of Death	No. of Cases
Reactions to transfusions	5	Congestive heart failure	4
Bronchopneumonia	2	Hepatic insufficiency	1
Hepatitis	1	Bronchopneumonia	1
Ileus	1	Pulmonary embolism	1
Varices (patent)	1		

Fig. 3.—Clinical findings in seven patients (five men and two women) with hemochromatosis associated with chronic refractory anemia. The age at death was 23 to 56 years (average 42 years) and the duration of disease 2 to 11 years (average 5 years).

hemochromatosis, had decreased significantly. We believe this is due to the administration of a diet for cirrhosis and to the correct management of diabetes mellitus. The longer a patient with hemochromatosis survives, the more likely he is to die in congestive heart failure with hepatic insufficiency or as the result of a metastatic hepatoma. The diagnosis of all types of hemochromatosis is usually made from the clinical features. In patients in whom pigmentation and diabetes mellitus are absent, the diagnosis of hemochromatosis is often not considered. Confirmation of the diagnosis must be established by needle biopsy of the liver, which is much more valuable than biopsy of the skin or than the intradermal test of Fishback, which has no value. The clinical features that distinguish primary hemochromatosis from hereditofamilial hemochromatosis or hemochromatosis associated with chronic refractory anemia are described below. It has been reported in the literature that elevation of the serum iron level and saturation of the iron-binding globulin are diagnostic of hemochromatosis. Our experience does not agree with these opinions. We have noted, as have others, elevations of serum iron levels and saturation of iron-binding globulin in cases of acute hepatitis, portal cirrhosis, transfusional hemosiderosis, aplastic anemia, hemolytic anemias, and myelophthisic anemia.

12. Sheldon,[3] Althausen and others,[5b] Spellberg,[6a] Kleckner and others.[11]

Hemochromatosis Associated with Chronic Refractory Anemia.—In the English medical literature, there are reports of at least 40 cases of hemochromatosis in which this disease was associated with a chronic refractory anemia. All but 3 of these 40 patients received repeated transfusions of blood. Pathologically, except for changes resulting from diseases of the hematopoietic system, these cases were identical with primary hemochromatosis. In the seven cases reported on here, a palpably enlarged liver, pigmentation of the skin, anemia, weakness, ascites, and loss of weight were the principal clinical features (fig. 3). A refractory anemia was the initial clinical finding in all of these cases. The onset of the disease occurred at an earlier age than in primary hemochromatosis. Two of the seven patients were women. In most cases anemia was aplastic in nature and enormous numbers of transfusions of blood were required to maintain life. Congestive heart failure was the most common cause of death.

Familial Hemochromatosis.—Twenty instances of familial hemochromatosis have been described.[12] We have had the opportunity to study two families, within the vicinity of Chicago, in which there is a high incidence of hemochromatosis. A third family is being investigated at present (fig. 4). The half sister of this family has refused our offer of a comprehensive clinical study, but she is known to have diabetes mellitus and hepatomegaly. The great-grandfather had hemochromatosis and presumably died of congestive heart failure. Two sons in the second generation had hemochromatosis and died of hepatic insufficiency. The daughter of the second direct generation does not have any clinical findings suggestive of hemochromatosis nor does any member of the third generation on either side of the family.

LABORATORY STUDIES AND STUDIES OF RADIOIRON ABSORPTION

Table 3 is a résumé of a large number of laboratory investigations made in our series. None of these, except needle biopsy of the liver, is particularly helpful in mak-

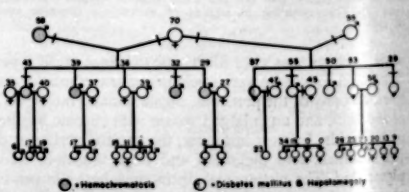

Fig. 4.—Genetic chart of hereditofamilial hemochromatosis.

ing a diagnosis, but all are of value in indicating proper care of the patient. However, when hepatocellular function was impaired sufficiently, abnormalities of protein synthesis were reflected in low levels of serum albumin, cholinesterase, and prothrombin. It was unusual to find abnormalities in the flocculation tests or the sulfobromophthalein sodium tests made early in the clinical course of the disease.

In four patients with hemochromatosis who had been treated with multiple phlebotomy, radioiron absorption

from the intestines was studied with orally administered radioisotopic iron (Fe^{59}). Twenty-one patients served as control subjects; these were ill with a variety of diseases, including anemia, portal cirrhosis, and diabetes mellitus. These studies will be published in detail elsewhere. As shown in figure 5, significant elevations of radioiron appeared in the plasma from 15 minutes to one hour after ingestion. In all patients with hemochromatosis, levels of radioiron were significantly higher than the levels observed in the control subjects. This independent finding confirms in part the data of Chodos and others.[10] Significant levels of Fe^{59} were never demonstrated in the urine of any of the patients studied, except in one patient with hemochromatosis, in whom it was found on the day after the test. Determinations showed that fecal Fe^{59}

TABLE 3.—*Laboratory Data in Forty-Two Patients with Hemochromatosis*

Determination	Patients Tested, No.	Results *
Hemoglobin, gm. per 100 cc.	42	10.4 (17.2-6.5)
Erythrocytes, millions per cu. mm.	42	3.12 (5.04-0.87)
Leukocytes, per cu. mm.	42	8,125 (22,000-3,700)
Albuminuria	42	12
Erythrocyturia	42	2
Blood glucose, mg. per 100 cc.	19	234 (470-98)
Blood urea, mg. per 100 cc.	17	77 (178-28)
Serum bilirubin, mg per 100 cc.	29	.....
Direct	..	2.4 (11.3-0)
Indirect	..	1.9 (7.2-1.2)
Sedimentation rate (Westergren)	10	44 (77-22)
Retention of sulfobromophthalein sodium	11	Grade 1-4
Albumin-globulin ratio, gm. per 100 cc.	18	2.5:5.5 to 2.9:2.6
Cholesterol, mg. per 100 cc.	5	Low in 4
Cholesterol esters, mg. per 100 cc.	5	Low in 4
Erythrocyte smear	5	Macrocytosis
Prothrombin time, seconds (normal 17-19)	10	25 (30-23)
Cephalin-cholesterol flocculation	7	Abnormal in 4
Thymol turbidity	8	Abnormal in 2
Biopsy		
Skin	10	Iron in 9
Liver	8	Diagnostic
Estrogens in urine	1	.....
Blood phospholipids, mg. per 100 cc.	1	167
Blood lipids, mg. per 100 cc.	1	255
Electrocardiogram	24	Abnormalities present in 22 †
Serum protein	3	Normal

* Numbers in parentheses are highest and lowest values.
† Low amplitude QRS in leads 1, 2, and 3; left ventricular strain; inverted T waves in leads 1, 2, and 3; auricular fibrillation (7 cases); and auricular flutter (1 case).

levels were inversely related to plasma Fe^{59} levels. Patients with elevations of the level of plasma Fe^{59} generally had low amounts of fecal Fe^{59}. However, in some cases studied, 10 days later the amounts of fecal Fe^{59} demonstrated were decidedly increased. These studies indicate the immediate absorption of Fe^{59} in treated cases of hemochromatosis. One may postulate that this iron is absorbed from the intestines, even in patients in whom there are extensive bodily stores of iron.

TREATMENT AND PROGNOSIS

The supportive treatment of hemochromatosis consists of management of cirrhosis of the liver by diet, containing 3,000 to 3,500 calories, with high amounts of protein, carbohydrate, and vitamins. Dietary restriction of sodium can be employed when edema or ascites are present. The therapeutic regimen also should provide ample periods of sleep and rest. Diabetic diet therapy and insulin are employed when diabetes mellitus is present. Chemotherapeutic and antibiotic drugs are used to combat various infectious diseases commonly observed in cases of hemochromatosis.

A few years ago, Davis and Arrowsmith[9] introduced a physiological therapeutic regimen for patients with hemochromatosis. This consists of repeated massive

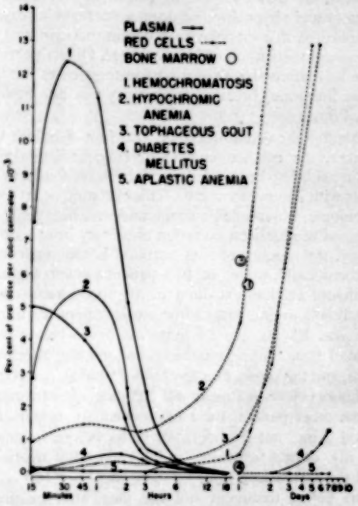

Fig. 5.—Distribution of ingested radioiron.

phlebotomy, which removes iron from the body. The method usually employed at present is to remove 1,000 ml. of blood each week. Some investigators reinfuse the plasma they have removed; we believe that, because of the presence of cirrhosis, this procedure should be used by all. Inasmuch as each liter of blood contains only 0.5 gm. of iron, it is obvious that very large quantities of erythrocytes have to be removed before any inroads are made into the iron stores. If the blood hemoglobin level falls below 10 gm. per 100 cc., phlebotomy is delayed until the anemia is corrected. Chodos'

TABLE 4.—*Therapeutic Results of Phlebotomy in Six Men with Hemochromatosis*

	Case 1	Case 2	Case 3	Case 4
Age	43	29	54	53
Treatment				
Diet	2,650 cal.	Ad libitum	2,600 cal.	2,100 cal.
Isophane insulin (NPH)	70 units	None	20 units	50 units
Amount of phlebotomy	14,750 cc.	12,500 cc.	16,500 cc.	3,000 cc.
After One and One-Half Years of Therapy				
Subjective status	Improved	Improved	Improved	Tuberculosis
Physical findings	Unchanged	Improved	Unchanged	Unchanged
Isophane insulin	40 units	None	None	40 units
Liver biopsy	Unchanged	70% less iron	Unchanged	Unchanged
Liver profile	Improved	Unchanged	Improved	Unchanged
Serum iron	Increased	Decreased	Increased	Increased
Iron-bound globulin	Unchanged	.....	Increased	Unchanged
Electrocardiogram	Unchanged	Unchanged	.....	Abnormal

studies[10] and our own suggest that, after phlebotomy, iron stores will reaccumulate unless phlebotomies are continued or absorption of iron is limited. Four patients with hemochromatosis were treated with a regimen consisting of multiple phlebotomies, a diet for patients with liver disease, and, if diabetes mellitus was present, management by diet and insulin (table 4). Tuberculosis (case 4) and a hypochromic, normocytic anemia (case 3) complicated this therapeutic program, necessitating the temporary suspension of phlebotomies. Objective results were less impressive than results in most cases reported in the literature, because phlebotomy was not intensive (fig. 1*B*).

Edathamil calcium-disodium (calcium disodium Versenate), the calcium chelate of ethylenediaminetetraacetic acid, has been administered intravenously to patients with hemochromatosis. This chelating agent forms a nonionic, water-soluble compound with heavy metallic ions and produces an excretion of urinary iron; unfortunately, the amount of iron excreted is too small to be of therapeutic value. In two patients given 4 gm. of edathamil calcium-disodium in 48 hours, results were as follows: in one patient, the measurement for urinary iron was 2.5 mg. per 24 hours 48 hours before treatment, 7.1 mg. during treatment, and 6.9 mg. after treatment, and the serum iron level was 350 mcg. per 100 cc. 48 hours before treatment and 205 mcg. after treatment; in the other patient, the measurement for urinary iron was 1.7 mg. per 24 hours 48 hours before treatment, 1.2 mg. during treatment, and 1.1 mg. after treatment, and the serum iron level was 206 mcg. per 100 cc. 48 hours before treatment and 186 mcg. after treatment. An "Fe-3 specific" chelating agent has been given to experimental animals; it increases urinary excretion of iron significantly. The treatment of hemochromatosis associated with a chronic refractory anemia consists of dietary management of cirrhosis of the liver and management of diabetes mellitus. In addition, the administration of multiple transfusions of blood may prolong the life of the patient. Iron administered orally, liver extract, vitamin B_{12}, and folic acid do not appear to be of benefit in cases of hemochromatosis associated with chronic refractory anemia. It is apparent that reduction of iron stores in these patients must be accomplished by the use of chelating agents, since phlebotomy is contraindicated.

Formerly, the life expectancy of patients with primary hemochromatosis varied from months to a few years. Currently, the average patient may survive at least three to five years as the result of diet therapy and the use of insulin. Multiple massive phlebotomies may further increase the life expectancy, possibly by delaying hepatic insufficiency and congestive heart failure. This therapy does not reverse cirrhosis of the liver, nor does it impede the possibility of the development of a hepatoma. The prognosis for life in patients with hemochromatosis associated with chronic refractory anemia varies from 2 to 11 years. Life may be prolonged by the administration of multiple transfusions of blood. Various reactions from transfusions of blood must be anticipated. Corticotropin, cortisone, or washed erythrocytes can be used to treat hemolytic reactions from repeated transfusions of blood. Serum hepatitis superimposed on cirrhosis of the liver appeared in one of our patients, but we do not believe that it is the cause of cirrhosis in patients with refractory anemia and hemochromatosis.

SUMMARY AND CONCLUSIONS

There are three types of hemochromatosis, namely, primary hemochromatosis, hereditofamilial hemochromatosis, and hemochromatosis asociated with a chronic refractory anemia. The best means of confirming a diagnosis of hemochromatosis is by needle biopsy of the liver. Primary hemochromatosis and hereditofamilial hemochromatosis are characterized by development of symptoms and signs in the fifth or sixth decade of life, predominance in men, cirrhosis of the liver, diabetes mellitus, pigmentation of the skin, and various manifestations of sexual hypoplasia. The life expectancy is about four years. Death is most commonly due to hepatic insufficiency or congestive heart failure. Hemochromatosis associated with a chronic refractory anemia is characterized by its appearance in young adults in whom a diagnosis of anemia has been made. Women may be commonly affected. Life expectancy is about five years. Death is most frequently due to congestive heart failure.

Laboratory data in all three types of hemochromatosis demonstrate only mild evidence of hepatic or pancreatic dysfunction early in the clinical course of the disease. The common complications of hemochromatosis are hepatoma, esophageal varices, and bronchopneumonia. Hemochromatosis is characterized pathologically by a specific type of cirrhosis of the liver, atrophy of the pancreas, pigmentation of the skin, melanosis of the abdominal viscera, and the presence of abundant amounts of iron in the liver, pancreas, reticuloendothelial system, myocardium, gastric glands, and all endocrine glands. The treatment of primary and hereditofamilial hemochromatosis consists of dietary therapy of cirrhosis, management of diabetes mellitus, and multiple massive phlebotomies. In the treatment of hemochromatosis that is associated with chronic refractory anemia, multiple transfusions of blood are employed instead of phlebotomy.

Ochsner Clinic, Prytania and Aline streets, New Orleans (15) (Dr. Kleckner).

Sanitation of Foods.—An appreciable amount of the time of the local health department sanitarians is . . . devoted to restaurant sanitation. Cooperative work between the restaurant industry and health officials is resulting in generally higher sanitation standards. Food poisoning and infection from commercial restaurants is becoming increasingly rare. The canning industry has done a notable job to insure that commercially processed canned foods are completely safe. Federal and state meat inspectors are doing a good job to see that meat and meat products are wholesome and processed under sanitary conditions. The poultry industry is working with health officials to develop standards for the processing, handling, and distribution of poultry. Milk sanitation has pretty well resulted in a safe and wholesome supply. There is need for a similar amount of time and effort to be devoted to the sanitary supervision of "take-out" foods operations.—C. L. Senn, F.A.P.H.A., and Col. P. P. Logan: Sanitation Aspects of "Take-Out" Type Foods, *American Journal of Public Health*, January, 1955.

UNSOLVED PROBLEMS IN THE STUDY AND CONTROL OF MICROBIAL DISEASES

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The student of infectious diseases is almost expected nowadays to attend a ceremony of this sort in a somewhat apologetic mood. Why take time in a crowded program, and claim space in a building that will soon be overcrowded, for a field of medicine presently regarded as having only historical interest? Does one not read everywhere that infectious diseases have been conquered, that the physician can deal effectively with them merely by applying knowledge, techniques, and drugs now in the common domain? First I should like to discuss the validity of this opinion and to examine in very broad terms the problem of infectious diseases as it presents itself in the Western world today.

Most concepts concerning the nature, epidemiology, and control of microbial diseases were formulated during the 19th century. This was a time of widespread and killing epidemics, either introduced from the outside, as were cholera and yellow fever, or bred from unsanitary living conditions and misery. Very much the same state of affairs still prevails in many parts of the world today, but, on the whole, the great plagues of the past have been brought under some form of control. It is true that the influenza pandemic of 1918 or the creeping spread of poliomyelitis are painful evidence that there are still epidemiological mysteries and that other pestilences might strike unaware; nevertheless, one can rejoice in the fact that epidemics are becoming scarce and that microbial diseases no longer occupy as they once did the most prominent place as causes of death.

There is no doubt that many of the problems of etiology, immunity, and chemotherapy that occupied the preceding generations have now been solved, both theoretically and practically. However it is only because scientists still think in 19th century terms that these achievements are regarded as having brought about the final conquest of microbial diseases. The appalling number of deaths caused by these diseases was in everybody's mind during the period when the germ theory began to yield its fruits, and it was natural that the lowering of mortality be the first goal of the medical and social campaigns organized against infection. Now that this goal has been reached, it is time to realize that mortality rates do not constitute adequate yardsticks to measure the importance of medical problems. If one were to use as criteria the amount of life spoiled by disease, instead of measuring only that destroyed by death; or the number of days lost from pleasure and work because of so-called minor ailments; or merely the sums paid for drugs, hospitals, and doctors' bills, the toll exacted by microbial pathogens would seem very large indeed. Microbial diseases have not been conquered. Rather, scientists have resigned themselves to the belief that a relative protection against them can be had only at the cost of a huge ransom.

NONPATHOGENIC BACTERIA

Just as 19th century concepts are still being used for the quantitative evaluation of the importance of microbial diseases, they are used in attempts to understand qualitative characteristics of the diseases. It is usually considered, for example, that the most typical and important representatives of the group of bacterial poisons are the toxins of diphtheria and tetanus and a few other exotoxins. These substances were indeed the first to be recognized and studied extensively, in part because of their obvious and dramatic killing power, in part also because diphtheria and clostridial infections or intoxications were of frequent occurrence 50 years ago. It is certain, however, that there are many constituents and products of micro-organisms that do not manifest themselves by any dramatic effects but can cause slow, low-grade intoxications. By interfering with the optimum performance of everyday life, these low-grade toxins play a more important role as causes of disease today than do the classical exotoxins. I would like to consider two examples taken from groups of bacteria not commonly regarded as truly pathogenic.

As is well known, certain types of micro-organisms are constantly present in large numbers in the intestinal tract and other parts of the normal human body. While there is no doubt that the constituents of this normal flora frequently pass into the general circulation, particularly from the intestinal tract, this is commonly considered as of little if any pathological significance, because the bacteremia thus induced is limited and of very short duration. In reality, however, these transient bacteremias may have a deleterious influence on health. It is true that the micro-organisms of the normal flora rarely invade the tissues extensively, but it is also a fact that many of them can exert toxic effects that, without being lethal, can be responsible for much physiological misery. Even very small amounts of the cellular constituents of gram-negative bacilli, for example, can be responsible for a large variety of disease manifestations, ranging from febrile response to profound disturbances of sugar metabolism and vascular pathological conditions. Their toxic activity is best known through certain spectacular reactions elicited by laboratory artifices, such as the Shwartzman phenomenon, but it is probable that it manifests itself not infrequently under natural circumstances. Thus, the toxins released from the intestine during many forms of stress probably play a part in surgical and traumatic shock. Or again, the same group of toxins may well cause a variety of vascular disturbances that come to light in the small miseries of everyday life and may even result through their additive effects in more profound and lasting pathological conditions.

Read at the dedication of the Mayo Memorial Building, University of Minnesota, Minneapolis, Oct. 21, 1954.

The other example has to do with the recent discovery that farm animals often gain weight more rapidly and utilize their food more effectively if fed diets supplemented with certain types of antimicrobial drugs. An explanation of this phenomenon, not necessarily the only one, is that the drugs modify quantitatively and qualitatively the activities of the intestinal flora and thereby reduce the production of toxic substances. It appears, in other words, that domesticated animals fed a supposedly adequate diet can suffer from mild but constant intoxication that expresses itself in retardation of growth without any other detectable symptoms or lesions. The possibility might be worth considering that a somewhat similar situation often obtains in man, as was suggested long ago by Metchnikoff.

LATENT INFECTIONS

The two examples that I have just considered deal with micro-organisms belonging to the normal microbial flora of the body. This choice was deliberate. It helps to focus attention on an aspect of the problem of infectious diseases that bids fair to assume ever-increasing importance in the near future, namely, the problem of silent or latent infections. Pathogens of all kinds—animal parasites, protozoa, fungi, bacteria, rickettsias, viruses—can persist in an active form in the tissues of a susceptible host, without causing detectable lesions or symptoms. These latent infections can remain symptomless for the lifetime of the infected individual, the host and the parasite ignoring or at least tolerating each other under normal conditions. Let the proper kind of physiological disturbance occur in the host, however, and the equilibrium is upset. At times, probably, the parasite is eliminated altogether. More often, it starts proliferating in an uncontrolled manner, the latent infection evolving into overt disease. The problem of latent infections acquires large practical importance from the fact that most infectious diseases are caused by micro-organisms that are widely distributed among normal, healthy members of the population.

During the past two decades many types of substances, procedures, or accidents have been shown capable of bringing about conditions under which latent micro-organisms can manifest their potential pathogenicity and cause overt disease in man, animals, and plants. The very banal case of fever blisters caused by the herpes simplex virus will suffice to illustrate some of the modalities of the phenomenon. Many human beings become infected with the virus early in life and develop against it neutralizing antibodies that are present in detectable titers in their serum. This immune reaction prevents the virus from causing a generalized infection but is incapable of eliminating it from the tissues, where it persists often for the lifetime of the individual. The equilibrium between host and virus is, however, extremely unstable and can be upset by many nonspecific disturbances. Excessive insolation, improper food, menstruation, or fever of unrelated origin alter the tissue response in such a manner as to allow the virus to undergo transient multiplication, with the result that the latent herpes infection is converted into the disease herpes blisters.

A similar pattern is, I believe, applicable to many microbial diseases of man. Enormous numbers of adult human beings carry tubercle bacilli in a semidormant state and hold their infection in check under normal circumstances. However, nonspecific physiological disorders can disturb the equilibrium between bacilli and host tissues and convert the latent tuberculous infection into overt tuberculosis. The fungus infections that follow on the wake of debilitating diseases or of prolonged treatment with antibacterial drugs, the toxoplasmosis activated by childbirth, the acute respiratory diseases of new recruits—all probably constitute other examples of latent infections that normally remain unnoticed but can be provoked into activity by nonspecific episodes of stress.

DETERMINANTS AND MECHANISMS OF DISEASE

Thus, it is clear that the determinants of disease are not the same as the determinants of infection. Ever since the formulation of the germ theory, the emphasis in the study of microbial diseases has been placed on the infectious agent, its identification, its mode of spread, and the techniques for attacking it directly by means of drugs, serums, vaccines, and other public health measures. It seems to me that the immense practical achievements derived from this first phase of the germ theory need to be supplemented now by more precise knowledge of the physiological factors of the host that are concerned in the development of lesions and symptoms. In very broad terms, analysis of the determinants of disease can be conducted along two independent lines. One of the goals is to define the factors other than immunologic that determine whether the micro-organisms present in the tissues are held at bay or find it possible to multiply extensively. Why is the individual with uncontrolled diabetes unable to stop the proliferation of tubercle bacilli or micrococci, whereas his resistance returns to normal after adequate insulin therapy? Why do the stresses of reproduction so often convert latent infections into severe pathological states, such as psittacosis in birds and mammary carcinoma in mice infected with the Bittner virus?

Another type of investigation that is much needed to complete the germ theory has to do with the precise mechanisms by which micro-organisms do cause disease. In the past, toxic manifestations have been studied almost exclusively as immunologic events, but this approach is not likely to throw light on the nature of toxemia. Fortunately, hints are already available that the effects of toxins can be defined in precise physiological and even biochemical terms. Consider, for example, the fact that treatment with tetraethyl ammonium chloride can protect experimental animals against the vascular damage caused by Shiga toxin. Since this drug interferes with the passage of autonomic impulses through sympathetic ganglions, it is apparent that the toxin has its primary action in the central nervous system. Or consider also the suggestive evidence recently brought forward that diphtheria toxin interferes with the synthesis or function of the cytochrome system, or again the demonstration that the alpha toxin of the Welch bacillus is an enzyme that hydrolyzes the phospholipids of the cells that it lyzes. Clearly, a rich harvest awaits those who are equipped to deal with microbial toxins as active physiological agents rather than as antigenic materials.

SUMMARY AND CONCLUSIONS

In summary, it seems to me that the center of interest in the field of infectious diseases is likely to shift during the coming decades. Now that many of the problems that haunted the medical and lay mind of the 19th century have been solved, it is necessary to formulate new questions more relevant to the times. Scientists believe that they understand the process of infection, but they are rarely able to prevent its occurrence. They publicize widely, and with justified pride, the very low death rates now exacted by the great killers of the past but neglect to mention the enormous amount of disease caused by the microbial pathogens and also by micro-organisms that are not usually regarded as pathogenic.

It is unlikely, I fear, that much progress will be made in the near future toward eliminating the micro-organisms that cause the diseases now endemic. Indeed, the fact that most members of the population will continue to harbor microbial agents that constitute a potential threat to health, even though not necessarily to life, must be accepted. Better techniques to prevent or at least correct the damage that they cause can certainly be developed. More important, the factors that permit so many individuals to harbor, without manifestations of disease, micro-organisms endowed with pathogenic potentialities can be eventually understood. On the basis of this knowledge it might some day become possible to design procedures of metabolic control that will help man live at peace with the micro-organisms. These micro-organisms, after all, do constitute an inescapable part of his biological environment.

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THERAPY OF VIRILIZING ADRENAL HYPERPLASIA WITH HYDROCORTISONE ACETATE

SUCCESSFUL THERAPY WITH INFREQUENT INTRAMUSCULAR INJECTIONS

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and
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The use of cortisone therapy of adrenal hyperplasia with virilism, as introduced by Wilkins in 1950,[1] is one of the most gratifying experiences in medicine. It enables one to convert a virilized, amenorrheic, sterile woman into a woman potentially capable of conception. Prior to the present, the best therapy available appeared to be the intramuscular injection of cortisone acetate two or three times a week.[2] We are not aware of anyone who has successfully spaced injections with the currently available preparations of cortisone acetate at intervals greater than four days. Prader [3] used macrocrystalline cortisone in dosages of 800 mg. every 30 days with good results. Somewhat larger doses are required orally and must be given in divided doses three or four times daily. In general, oral therapy has been found by various groups to be less effective than intramuscular therapy.[4] In addition, as pointed out by Wilkins and co-workers,[2] it is much more difficult to get persons to take oral therapy evenly spaced over the day than to have them get less frequent intramuscular injections. Therefore, since intramuscular administration of cortisone acetate appeared to be preferable and more efficacious, a study was undertaken to find material that would enable us to give infrequent intramuscular injections. In this presentation we propose to describe a mode of therapy that requires less frequent injections than necessary with cortisone acetate.

METHOD

A series of cortical hormones and their esters were assessed for their duration of action in rats in which adrenalectomy had been done.[5] The end-point that was used was the duration of life after a single subcutaneous injection, given at the time of adrenalectomy. About a score of steroids and steroidal esters have been tested in this manner. From this data, hydrocortisone acetate was selected as the agent that attained threshold absorption without excessive dosage and showed a reasonably prolonged duration of action. To date, we have treated five patients with intramuscular injections of hydrocortisone acetate. All of these patients had adrenal hyperplasia with virilism, associated with excessive 17-ketosteroid and pregnanediol chromogen excretion. Four of them had previously been successfully treated with intramuscular injections of cortisone acetate, resulting in both clinical and laboratory remission of the disease. In one patient oral therapy with cortisone was tried, without good control and with the definite development of an appearance related to adrenal cortical hyperfunction (Cushing's disease). In two patients 50 mg. intravenously of hydrocortisone over 24 hours gave a spectacular drop of 17-ketosteroid and pregnanediol chromogen excretion.[6]

From the Department of Medicine, Tulane University School of Medicine, and the Endocrine Research Laboratory of the Alton Ochsner Medical Foundation.

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The hydrocortisone acetate for intramuscular use used in this study was supplied by Merck & Company, Inc., Rahway, N. J.

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3. Prader, A.: Die Cortisondauerbehandlung des kongenitalen adrenogenitalen Syndroms, Helvet. paediat. acta 8: 386-423 (Nov.) 1953.

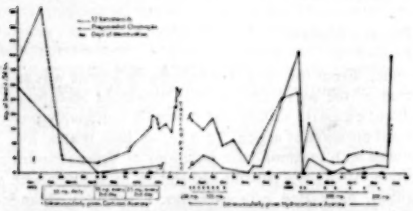
4. Evans, T., and Riley, G.: Pseudohermaphroditism: A Clinical Problem, Obst. & Gynec. 2: 363-378 (Oct.) 1953. Wilkins and others.[2] Prader.[3]

5. Segaloff, A.; Flores, A., and Segaloff, A.: Unpublished data.

From our experience with these patients, it appears that the ideal way of administration of the hydrocortisone acetate is to give a single intramuscular injection of 250 mg. in 10 cc. of sodium chloride suspension once weekly or until the 17-ketosteroid and pregnanediol chromogen excretions are well within normal limits and the illness appears to be in clinical remission. In all patients old enough to expect the onset of menses, menstruation was seen while the patient was still being given injections of hydrocortisone acetate once weekly. After clinical and laboratory remission have been obtained, it is then possible to space the standard 250 mg. intramuscular injections at longer intervals. It is our practice then to try injecting at 10 day intervals. If remission is maintained, the interval between injections is extended to two weeks or longer. In one instance it has been possible to maintain both clinical and laboratory remission with injections of 500 mg. spaced three weeks apart.

REPORT OF A CASE

A 17-year-old white girl (table, case 1) was first seen at the Ochsner Clinic on Dec. 29, 1952. Her chief complaints were those of acne, primary amenorrhea, hirsutism, and a failure of breast development. She had never menstruated, in spite of several courses of estrogen therapy. There had never been any



Results of therapy in patient with virilizing adrenal hyperplasia.

lower abdominal cramping. Physical examination revealed a short, somewhat stocky, white girl, with height 60.25 in. (153 cm.), weight 104 lb. (47.2 kg.), and blood pressure 140/78 mm. Hg. There was marked hirsutism over the face, arms, legs, and trunk. Her hands were quite wide, with rather short fingers, and her muscular development was quite masculine. No breast tissue was palpable. Severe acne was present on her face and anterior chest wall, as well as the back. Pelvic examination revealed some atrophy of the labia minora, definite enlargement of the clitoris, and separate urethral and vaginal openings. A speculum examination revealed a small cervix, while bimanual examination revealed a small rudimentary uterus. The ovaries could not be felt; a chest roentgenogram and exploratory urograms were normal. The urinary 17-ketosteroid excretion was 39 mg. per 24 hours, formaldehydogenic corticoids were 0.53 mg. per 24 hours, and pregnanediol chromogen excretion was 29 mg. per 24 hours; the gonadotrophin assay was less than 6.6 mouse units per 24 hours; the dehydroisoandrosterone test was negative. Cortisone therapy was begun, with 50 mg. intramuscularly daily, on Feb. 2, 1953, and, as illustrated in the figure, a rather prompt response was obtained insofar as 17-ketosteroid and pregnanediol chromogen excretions were concerned. The acne cleared rather quickly, breast development was noticed within several weeks of institution of therapy, and the first menstrual period occurred by the end of May. Therapy was reduced, as indicated in the figure, to 50 mg. every second day and later to 25 mg. every second day. The corresponding changes in 17-ketosteroid and pregnanediol chromogen excretion can be noted in the figure. All therapy was discontinued during the summer, at which time studies were carried out in the hospital with the use of intravenously given hydrocortisone.[6] This test resulted in the prompt and dramatic cessation of excessive 17-ketosteroid and pregnanediol chromogen excretion within the 24 hour period of the infusion. After this, therapy was again instituted with hydrocortisone acetate, and, since that period, varying amounts at varying intervals have been used. It is interesting for the purposes of comparison that 500 mg. of hydrocortisone acetate given intramuscularly every three weeks has resulted in essentially the same clinical remission and laboratory

Results of Therapy in Five Patients with Virilizing Adrenal Hyperplasia*

Case No.	Therapy: Steroid	Therapy: Route	Therapy: Dose, Mg.	Therapy: Interval	17-Ketosteroids, Mg. per 24 Hr.	Pregnanediol Chromogen, Mg. per 24 Hr.
1	None	.....	..	.....	47.3 (2) †	38.9 (1) †
	Cortisone acetate	I.M.	50	Daily	4.4 (4)	... (1)
	Cortisone acetate	I.M.	50	Every 2 days	8.2 (2)	.....
	Cortisone acetate	I.M.	25	Every 2 days	17.5 (2)	2.5 (1)
	Hydrocortisone acetate	I.M.	125	Weekly	8.9 (1)	1.6 (1)
	Hydrocortisone acetate	I.M.	250	Weekly	3.4 (1)	... (1)
	None	.....	..	.....	36.6 (2)	32.4 (2)
	Hydrocortisone acetate	I.M.	500	Every 2 weeks	5.9 (3)	1.9 (2)
	Hydrocortisone acetate	I.M.	500	Every 3 weeks	6.5 (4)	1.8 (4)
2	None	.....	..	.....	28.9 (6)	10.8 (1)
	Hydrocortisone acetate	I.M.	250	Weekly	5.4 (2)	0.4 (2)
3	None	.....	..	.....	34.4 (5)	.....
	Cortisone acetate	Oral	25	Daily	18.9 (2)	.....
	Cortisone acetate	Oral	50	Daily	5.7 (2)	.....
	Cortisone acetate	Oral	75	Daily	5.7 (8)	.....
	Cortisone acetate	I.M.	25	Every 2 days	11.9 (2)	.....
	Cortisone acetate	I.M.	50	Every 2 days	5.4 (8)	.....
	None	.....	..	.....	17.2 (3)	18.5 (2)
	Hydrocortisone acetate	I.M.	250	Weekly	4.3 (2)	0.5 (1)
	Hydrocortisone acetate	I.M.	250	Every 10 days	5.0 (2)	... (1)
4	None	.....	..	.....	25.7 (2)	3.5 (1)
	Cortisone acetate	I.M.	25	Daily	5.4 (4)	... (2)
	Cortisone acetate	I.M.	50	Every 2 days	4.5 (4)	2.40 (2)
	None	.....	..	.....	20.7 (2)	9.0 (3)
	Hydrocortisone acetate	I.M.	500	Monthly	10.1 (5)	2.0 (3)
	Hydrocortisone acetate	I.M.	250	Every 2 weeks	7.6 (4)	1.2 (2)
5	None	.....	..	.....	66.2 (6)	108.5 (2)
	Cortisone acetate	I.M.	50	Every 2 days	72.2 (1)	.....
	Cortisone acetate	I.M.	100	Daily	8.6 (1)	... (1)
	Hydrocortisone acetate	I.M.	500	Monthly	68.1 (3)	107.5 (3)
	Hydrocortisone acetate	I.M.	250	Weekly	6.9 (4)	0.2 (4)
	Hydrocortisone acetate	I.M.	250	Every 10 days	19.4 (2)	7.2 (2)

* The patients' ages were 17, 10, 9, 5, and 17 years respectively.

† Numbers in parentheses indicate the number of determinations.

6. Segaloff, A.; Gordon, D., and Horwitt, B. N.: Intravenous Infusion of Compound F as a Means for Differentiating Hyperadrenal States, abstracted, J. Lab. & Clin. Med. 42:951-952 (Dec.) 1953.

remission as was seen when the patient was receiving 50 mg. of cortisone daily intramuscularly. It should also be noted that menstruation occurred when therapy was adequate and did not occur during that period when therapy was withdrawn or reduced. The first change noted when the therapy was begun or discontinued was the disappearance or the reappearance of acne and seborrhea respectively. Breast size continued to progress satisfactorily as long as adequate treatment was maintained. When therapy was withdrawn, there appeared to be some regression in breast size.

In the table there are comparisons of the excretion of 17-ketosteroids and pregnanediol chromogen in each of the five patients with the various courses of therapy used. Since about one month of therapy is required to reduce the excretion rates to normal, the figures shown are averages after a month of therapy. It should be pointed out that there was good clinical and laboratory remission while the patients were receiving intramuscular therapy with cortisone acetate or hydrocortisone acetate. One patient (table, case 3), while receiving oral therapy with cortisone, showed a decrease in 17-ketosteroid excretion to normal. However she showed no improvement in acne or seborrhea during this same period of therapy. After this, when intramuscular therapy with cortisone acetate or hydrocortisone acetate was begun, in each instance she showed a clinical as well as a laboratory remission.

COMMENT

It is interesting that statements appear in the literature that hydrocortisone acetate given by intramuscular injection has slight metabolic effect because of its low rate of absorption from the site of injection.[7] For long-term treatment of adrenal hyperplasia this is an advantage rather than a disadvantage. However, in order to take full advantage of this property, it is necessary to inject a greater amount of steroid, so that the minimal absorption at any one time will be sufficient to suppress the pituitary's output of corticotropin (ACTH). Therefore, the small doses of hydrocortisone acetate that had been previously used intramuscularly in this disease were probably not effective because not enough was absorbed during any period to attain this threshold value for pituitary suppression. This problem is obviated by the use of larger doses, such as recommended above.

The problem of attainment of threshold is such that unless a steroid more active than hydrocortisone in suppressing the pituitary output of corticotropin is found it does not appear feasible to use esters of a greater duration of action than hydrocortisone acetate. We have seen, in our work with animals, cortical hormone esters with a considerably longer duration of action than hydrocortisone acetate. However, it appears to us that, because of their relatively slower rate of absorption, some of these esters would require the injection of such excessive amounts for the attainment of threshold values that they are impracticable.

Since the fundamental defect in this disease appears to be an inability of the adrenal cortices to hydroxylate C-21 steroids in the C-11 and C-21 positions,[8] and, since therapy does not correct this fundamental defect, it appears necessary to contemplate lifetime therapy with cortical hormones in these patients. We suspect that successful therapy with cortisone induces atrophy of the adrenal and carries with it the necessity of continued therapy for the maintenance of health. It must also be pointed out that such a patient is probably similar to any person receiving prolonged cortisone therapy and must similarly be supported with additional cortical hormones in times of illness or accident.[9] In view of the above, oral therapy given irregularly or possibly stopped inadvertently might be hazardous and lead to transient but serious adrenal insufficiency.

It has been our experience that patients are much more willing to accept infrequent intramuscular injection than oral medication several times daily. We would also like to point out that in some hands therapy of adrenal hyperplasia with virilism with cortical hormones has actually been discarded because of the failure to attain either clinical or laboratory remissions of an adequate nature with oral therapy.[8] We believe that these disadvantages are obviated by therapy such as outlined above. We have never seen any patient with adrenal hyperplasia and virilism in whom there was not a response of both clinical and laboratory remission to adequate intramuscular administration of either cortisone acetate or hydrocortisone acetate.

SUMMARY

A new modification of the current method of treating adrenal hyperplasia with virilism with the use of infrequent intramuscular injections of large dosages of hydrocortisone acetate has advantages over oral or intramuscularly given cortisone acetate therapy. It is recommended that therapy be started with 250 mg. of hydrocortisone acetate given intramuscularly once weekly. After the attainment of clinical and laboratory remission, the injections can be spaced out at wider intervals.

3503 Prytania St. (Dr. Segaloff).

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Blood Transfusions Are Not Without Danger.—In spite of greatly improved safety, the mortality directly attributable to blood transfusions is not negligible. It is estimated that, even in the best run institutions, the mortality rate from blood transfusions is approximately 1 in from 1,000 to 3,000 transfusions. In view of the fact that approximately 3,500,000 transfusions are given annually in this country, the number of deaths would be about 1,700, making this cause of death as frequent as those resulting from appendicitis or anesthesia. It is probable that occasionally deaths directly attributable to blood transfusions are not recognized as such but are blamed on the underlying disease. Here belong cases of transfusion reactions from heart failure and late renal failure. The morbidity resulting from blood and plasma transfusions is also a serious problem. Here belongs homologous serum jaundice, for which no generally recognized preventive measure has been found thus far.—Israel Davidsohn, M.D., Indications and Contraindications for Whole Blood and Its Various Fractions, *American Journal of Clinical Pathology*, March, 1954.

RESPONSIBILITIES OF MILITARY MEDICINE

Col. H. G. Moseley (MC), U. S. A. F.

To many persons the concept of military medicine is reasonably simple. If one asks them what military medicine is they will say, "It is medical care for military patients." Many physicians hold this same belief. It is completely erroneous. It is regrettable that so widespread a belief exists, because thinking that medicine can serve military forces by simply applying everyday medical principles to the men in uniform can result in neglect, loss of life, and even in the loss of a nation. Medicine must enter into multiple strange enterprises; it must often shoulder responsibilities that are unique.

In stating that it is a fallacy to believe that military medicine consists of care of military patients, no implication is meant that such patient care is not a medical responsibility. In considering military medicine, the error in thinking is to believe that patient care comprises the total military medical effort. In many respects, the actual care of the patient is the simplest of all the responsibilities that confront the military physician. There is little difference between caring for the men in uniform and the civilian in the community. The military patient responds to known techniques and to ordinary therapeutic measures. It is true that the military patient may suffer more grievous wounds than is ordinarily suffered by his civilian counterpart, and it is true that he may have to be treated in tents or in dugouts; however, medicine has little difficulty in meeting this responsibility. Civilian physicians can turn from their community practice to a military force and discharge this responsibility with little indoctrination, but, if patient care was the only contribution of those in military medicine, the armed forces would eventually be overwhelmed with sickness and death.

There is one responsibility of military medicine not concerned with patient care that is of transcending importance and yet seldom receives the recognition it deserves. This is the responsibility of preventing disease and disability. To realize the stark necessity of engaging in preventive medicine, one does not have to look far into history. Records are replete, even saturated, with examples that defy modern comprehension. In the First Crusade, an army of 300,000 was reduced to 20,000. In the Second Crusade, an army of 500,000 was reduced to a handful of returning stragglers. In the Third Crusade, an army of 100,000 was reduced to a remnant of 5,000. In these campaigns the killer for the greater part was not the sword or the arrow but scurvy, dysentery, plague, and typhus. Even as late as 1812, Napoleon's army of 500,000 was reduced to 30,000 mainly by typhus, and within our memories, influenza decimated armies. Hans Zinsser [1] has stated:

> Soldiers have rarely won wars. They more often mop up after the barrage of epidemics, and typhus with its brothers and sisters,—plague, cholera, typhoid, dysentery, has decided more campaigns than Caesar, Hannibal, Napoleon, and all the inspectors general in history. . . . A concentration of large populations and cities, free communication with all other parts of the world, especially Africa and the East, constant and extensive military activities involved in the mobilization of armies in camps, and the movement of large forces back and forth from all corners of the world—these alone are conditions which inevitably determine the outbreak of epidemic disease.

WAYS AND MEANS TO PREVENT AND CURE

The practitioner of military medicine must take extraordinary steps in inoculation, in immunization, in enforcing sanitary measures, and in control of insects and vectors. If he relaxes he may suddenly find that the armed forces he is supposed to serve are being decimated by an invisible and harmful or even death-dealing enemy that has penetrated the military defenses in the form of contaminated food or water or in the bodies of lice or mosquitoes. However, in spite of the greatest vigilance and the most extraordinary effort, disease cannot always be prevented. Even now we know of no sure method of preventing such afflictions as epidemic encephalitis, and at any time a virulent strain of influenza may again decimate armies and civilizations of the world. That leads to a consideration of another responsibility of military medicine. This is the responsibility of discovering new ways and means to prevent and to cure. It is the responsibility of engaging in military medical research and in engaging in some military medical specialties. Because the afflictions that affect armies largely are those that affect civilians, the engagement in research is frequently a joint and common enterprise with civilian physicians. An example of this is the recent research in malaria, jointly conducted by both civilians and military personnel, that has led to the discovery of primaquine [8-(4-amino-1-methylbutylamino)-6-methoxyquinoline], which is probably a true malarial cure. However, the armed forces, in exploring the future realms and unknown conditions in which military personnel may be forced to transgress, ask medicine strange questions concerning the ability of humans to survive in the upper atmosphere, deep within the sea, or under conditions of abnormal stress. Thus, military medicine enters into research in anoxia, vibration, wind-blast, centrifugal force, noise, and other areas. The results of such current research may well point the way of survival not only to future soldiers, sailors, and airmen but to all of humanity, even as the observations of James Lind in 1757 first freed the British Navy and then the civilized world of scurvy.

In addition to research, the military requires that some physicians specialize in methods of practice that are not ordinarily met in civilian life. Aviation medicine is an obvious example. Less obvious, but equally vital to the military forces, are specialized practices such as psychiatry, which must be practiced in the front lines to prevent mental casualties under the dread and threat of traumatic death, and all of the specialties in treating traumatic wounds.

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Read before the Sixteenth Meeting of the National Office of Documentation of Military Medicine, Rome, Italy, October, 1953.

1. Zinsser, H.: Rats, Lice and History, Boston, Little, Brown & Company, 1935.

PLANNING IN THE FIELD OF MILITARY MEDICINE

When one considers the responsibility that the military medical officer has in treating the wounded, preventing disease, and specializing in military subjects, one is also confronted with another concomitant responsibility; the responsibility that medicine must, if it is to serve the military forces well, contribute to military planning. Unless there be confusion as to why medicine, which is devoted to healing, should enter military planning, which is identified with destruction, it is pertinent to point out that there are many phases of military planning that are protective. The conservation of troops, the maintenance of morale, and the providing of life's necessities are vital to the integrity of an army. It is to these plans that medicine must contribute. Circumventing the dangers of malaria can save more lives than a skillful maneuver, and merciful ministrations to a fallen comrade can raise morale more effectively than the exhortations of generals; however, of all medical contributions to planning it is the ordinary everyday plans of medical logistics that are most important. How many tons of medical supplies must be included in the equipment of a military campaign? How many aircraft in a theater of operation will have to be devoted to the evacuation of the wounded servicemen? How many trucks in a convoy will be required to carry field hospitals and medical personnel? If military medicine were deficient in its responsibilities of planning for these logistic necessities, it would completely fail in its responsibility of caring for the sick and wounded personnel of the military forces.

MOBILITY

Another responsibility of military medicine that seldom receives the recognition it deserves is the responsibility of being mobile. The practice of military medicine in times of war is almost diametrically opposed to the civilian concepts of fixed hospitals, installed equipment, known and trusted employees, and orderly lives. In regard to the patient, too, warfare brings problems of movement that have no civilian comparison. It is interesting to note, historically, that before this factor of mobility was recognized the practice of medicine on the war wounded was shockingly inadequate. Prior to the 19th century, effective methods of evacuating the wounded were simply nonexistent, and men who fell in battle were left unattended because fighting men could not be spared to escort them to the rear. The thousands of wounded who lay neglected for hours and days as a result of this heartless but necessary procedure decimated many a command and decided the outcome of more than a few engagements. The 19th century saw the first significant steps toward remedying this deplorable waste of lives. Napoleon demanded that his medical officers treat the fallen during and not after the battles, and, although this was certainly a step toward the improvement of the lot of the wounded, it did not solve the problem of adequate treatment and was attended by a high casualty rate of medical officers. The United States, in its Civil War, is an ideal case history of the effects of the lack of medical mobility, the measures that were taken to remedy this defect, and the results that were obtained. Concerning this struggle, Garrison [2] stated:

> Given the size of the armies raised, the medical arrangements for evacuation and care of the wounded were meagre. There was no organized ambulance or field hospital service, no organization for evacuation to the interior where hospital service was hastily improvised in hotels, barns and neighboring private homes. The introduction of rifled arms, with fixed ammunition and conoidal bullets, had vastly increased the range and rapidity of fire, with much wider danger-zones and greater scattering of the wounded over the field. As the engagements increased in magnitude, the wounded lay helpless on the battlefields for hours extending to days before the slow work of evacuation was attempted by commandeering rickety hacks and hucksters' wagons. The teamsters driving army wagons were drunken, insolent and insubordinate. There was no effective bridge in the way of sanitary formations operating between front and base to relieve commands overwhelmed with casualties. This not only caused immense suffering and losses among the wounded, but interfered with the mobility of fighting units through delays and stalling of vehicles, sometimes demoralized commands as to fighting capacity, and encouraged skulkers to desert the lines under pretext of assisting the wounded to the rear.

Measures taken to overcome this by Dr. Jonathan Letterman were prompt and thorough. In order that casualties could be moved, ambulance corps with litter bearers were organized and assigned to all regiments. In order that distances of evacuation might be lessened, field hospitals were designed and placed as close as practicable to the areas of conflict and were made portable in order that they could be moved as the lines of battle changed. Equipment and supplies were also made portable in order that they could be carried to the sites of need so that the physician might have more than a bottle of iodine and a roll of bandages to administer to the gravely wounded. In fact, the entire medical organization was dislodged from the concepts of fixed installations to that of bringing the hospital as close as possible to the patient, and the concept of moving the wounded was changed from that of supporting the fallen between two soldiers to an efficiently organized litter and ambulance service.

The results of these changes during the Civil War were remarkable. Soldiers who had formerly lain on the battlefield for 36 to 48 hours were now usually in hospitals within 6 to 12 hours after they had fallen. The effect of such changes on morale of the troops was great. The number of wounded who were returned to duty was even greater. When military medicine learned to be mobile it vastly improved the lot of the wounded. As modern armies become more and more mobile, as motorized divisions replace the foot troops, as airpower continues to grow, the responsibility of medicine to maintain its mobility in serving the armed forces will continue to increase. The development of air evacuation in World War II and the increasing use of helicopters for rescuing the wounded in the Korean conflict are manifestations of the new ways in which medicine is meeting this responsibility. And although military medicine has made tremendous advancements in evacuating the wounded and moving hospitals to the wounded, concepts cannot remain fixed. Additional demands for mobility and fluidity will undoubtedly continue

2. Garrison, F. H.: Notes on the History of Military Medicine, Mil. Surgeon 50:1 (Jan.) 1922.

to be placed on military medicine and require imagination, improvisation, and adaptability if physicians are to be successful in the mission of caring for those who fall in the ravages of war.

CAREERS IN MILITARY MEDICINE

Reflection on the advancement of military medicine brings the realization that such progressive steps were not casual, but rather the result of scientific study and observation. Anticipation of the future brings the realization that military medicine will become increasingly complex as it keeps pace with the advancing technology of military forces and the civilized world. This indicates another responsibility of military medicine of ever-growing importance. It is the responsibility of giving careers to the military service. Entirely too often there is the casual concept that medicine can serve the military forces in times of need by simply pressing into the service a large number of medical practitioners. From what has been said before, it is obvious that the requirements of a military force are too varied and too complex to be met by physicians or any other members of the healing art who are not familiar with the myriad special problems involved in an armed force. The intricacies of logistics, orders, rules, and regulations are so great, and the demands of military departments are so unusual, that it takes entire careers to study and understand when, where, and how medicine must be applied to a military force. In times of mobilization, it is essential to have a medical organization within the military departments that can state the professional requirements, appraise the material received, and distribute professional personnel and all of the impedimenta of professional practice to the points of need. It is career medical officers who develop the understanding of the medical requirements of a military force, and it is career medical officers who provide the nucleus on which an effective military medical organization can be built. The science of medicine must give full cognizance to this essential responsibility and give full support to those professional personnel who choose careers in the armed forces; otherwise any medical effort, no matter how great, which is hastily thrown to the support of an armed force in times of critical need, will find itself dissipated and largely ineffective. In essence, the effectiveness of military medicine rests on the shoulders of the career professional officers. The integrity of the nation may rest on the support that is given them.

MAINTENANCE OF PROFESSIONAL VIRILITY

The last responsibility of which I wish to speak is the responsibility that might be termed that of maintaining professional virility. It is the responsibility of maintaining contact with pertinent professional developments and of continually stimulating military medicine toward more productive efforts. It is the responsibility of maintaining growth. We have learned through long experience that the science of medicine flourishes best under conditions of free interchange of knowledge and ideas and with broad acquaintance with the problems that challenge the ingenuity of physicians. There are two obstacles that may sometimes cause the military medical practitioner to be deficient in meeting this responsibility. The first of these is when the military physician loses contact with civilian medicine. Military medicine to grow and progress must have free access to the ideas and discoveries of the civilian medical world even as civilian medicine will grow from lessons learned and research done in the military services. The second detriment to professional growth that can arise is losing sight of the true significance of the global aspect of medicine. It is well to remember that the present perfection of medicine has been reached through the contributions of a multiplicity of persons from a multiplicity of nations, and that the genius of Pasteur, the brilliance of Fleming, and the inspiration of professional men the world over lie behind the ministrations given today. When one loses the global concept of medicine, thoughts tend to become narrowed to immediate surroundings and problems are interpreted in the light of answers that are readily at hand. It is only when there are repeated remembrances that the research and techniques of France or Sweden may hold the answer to medical problems in Italy and America that the responsibility for professional growth is actually being fulfilled. In brief, military medicine, like civilian medicine, can know no geographical boundaries.

As previously mentioned, military medicine is a complex art. Not only is it confronted with the ordinary challenges of medicine but also with the extraordinary problems that are encountered in serving the military forces. There are not many areas of common ground for mutual understanding of military medicine and fewer still for considering it in its global applications. In this regard, and in closing, it is appropriate to pay tribute to the International Committee of Military Medicine and Pharmacy, whose objective is "to maintain and draw ever closer the bonds of continued professional cooperation between men who the world over in times of peace as well as war, are charged with the care of the sick and wounded of the armies." Perhaps the most creditable contributions from all of man's wars lie in the medical lessons learned, which in subsequent application have benefited all of humanity. That the International Committee and its congresses exist for the purpose of increasing and enhancing these medical benefits is admirably in accord with the finest efforts of mankind.

Cardiac Arrest.—In the treatment of cardiac arrest it is not important to differentiate between ventricular asystole and ventricular fibrillation at the outset. The emergency problem is to establish artificial respiration and artificial circulation so that oxygenated blood may immediately go to the brain. If there is cardiac asystole on the basis of the vagovagal reflex, the heart will resume normal activity as a rule after a few moments of rhythmic compression. If there is a cardiac asystole on the basis of an overdose of anesthesia, it is a simple problem of maintaining the artificial respiration and circulation until the excess anesthetic agent is removed or detoxified. If hypoxia is the problem, the circulation of well oxygenated blood is all that is required. The important thing is that circulation must be restarted before there is irreparable brain damage. If the heart is in ventricular fibrillation, other considerations in treatment are usually required, but they come after the tissues are oxygenated.—J. Johnson, M.D., and C. K. Kirby, M.D., Cardiac Arrest During Pulmonary Resection: Etiologic Factors and Management, *American Journal of Surgery*, January, 1955.

LIFE SITUATION, BEHAVIOR PATTERNS, AND RENAL EXCRETION OF FLUID AND ELECTROLYTES

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and
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In a recent review, Homer Smith [1] elegantly epitomized basic concepts relevant to renal function. He reaffirmed Claude Bernard's emphasis that the environment in which man lives is neither air nor water but the blood and body fluids that bathe all the tissues. This internal environment is characterized by an extraordinary constancy of composition, and it is by virtue of this fact that the animal achieves a free and independent life. Smith rates this concept of Claude Bernard's in importance with Darwin's concept of biological evolution. Indeed, the two ideas are linked, because the story of the evolution of the vertebrates is, in essence, the story of the evolution of the internal environment. It is the kidney that is charged with the maintenance of this environment, an operation that it carries out by the circuitous processes of glomerular filtration and tubular reabsorption. "Man's entire internal environment is, in fact, thrown out of the body by way of the glomerular filtrate some 16 times a day, only to be captured by the renal tubules before it falls to earth." [1a] It is in this process of recapture that the renal tubules perfect and maintain its composition. The steps in this progressive evolutionary elaboration of the kidneys to the point where man may live in a fluid the composition of which scarcely suffers any change can now, in some measure at least, be determined through comparative physiology.

Without this internal environment—that is to say, without the kidney—the first armored fishes could not have invaded fresh water 500 million years ago. It was the physiological crisis engendered by this invasion of fresh water that led to the evolution of the glomerulus as a device for enabling the heart to pump water out of the body. Without subsequent improvements in the kidney, there could have been no evolution of the air-breathing fishes, from which in subsequent periods were evolved the first amphibious animals, and, from the Amphibia, the reptiles. From the reptiles came the warm-blooded mammals and such further improvements in the kidney as enabled the mammals to supersede the reptilian forms. Warm-bloodedness fostered the evolution of the brain until, in the primates, the sense of sight came to dominate the sense of smell, culminating in the evolution of the human cerebral cortex, the most elaborate organ in all of animate creation for the mediation of consciousness, with its manifold operations of perception, integration, volition, and imagination. Homer Smith, in reaffirming Bernard's thesis that we owe our physiological freedom to the constancy of our internal environment, indeed is but emphasizing that both the historical and the immediate foundations of this freedom rest in the organ that both historically and immediately supplies us with this stable body fluid. The data of this essay would build on this thesis by suggesting that ancient devices for the control of internal environment may be set in motion not only by crises presented by changes in the physical environment but also by symbols of danger or situations involving interpersonal and social relations that the person perceives as threatening. The observations on which this thesis is based are being separately presented in a series of communications now ready for publication. Details of method and patient material are recorded in these theses.

METHOD

About 400 observations were made on five subjects on the rates of renal excretion of water, sodium, potassium, and creatinine during situations evoking a variety of adaptive patterns, including altered behavior and expressed attitudes, emotions, and feelings. Observations were made under circumstances of ordinary daily work with no specific restrictions applied either in food or fluid intake or in the amount or the intensity of muscular activity.

To make the relevant studies, it was first necessary to show that fluctuations in renal excretion accompanying variations in the subject's dietary intake and muscular activity under the conditions of these experiments were minor in comparison with those fluctuations accompanying variations in situations, behavior, and feelings. The data showed that variations in intake, such as missing an occasional meal or eating a very large one, were not associated with major alterations in fluid and electrolyte excretion. It was also shown that variations in posture and muscular exertion that were part of everyday living were accompanied by minor alterations in renal excretion of fluid and electrolytes as compared with the striking changes that accompanied variations in interpersonal relations and social situations arising in everyday acts. The effect of life situations and the evoked behavioral and emotional reactions as well as renal excretion was sufficiently great to obscure or reverse the alterations anticipated from unusual levels of intake or from physical activity.

The attitudes, emotions, and feelings recorded in these studies were almost wholly those that the observer could note and the subject could recognize, describe, or name. It is probable that the reactions reported by the subjects were only partial evaluations, but predictable correlations of renal excretion rates of water, sodium, potassium, and creatinine with the reported responses were demonstrable. Fluid and electrolytes are fundamental constituents of all protoplasm, incorporated into the structure of the organism at the lowest phylogenetic levels and are maintained in similar proportions and concentrations throughout a large segment of the animal kingdom. Hence, vari-

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1. (a) Smith, H. W.: From Fish to Philosopher, ed. 1, Boston, Little, Brown & Company, 1953. (b) Comparative Physiology of the Kidney, J. A. M. A. 155:1512 (Dec. 26) 1953.

ations in fluid and electrolyte excretion did not correlate closely with minor, subtle, precisely delimited adaptive reactions, attitudes, and feelings but correlated rather with gross categories; for example, aggressive anger patterns were accompanied by changes in a similar direction as regards deviation in fluid and electrolyte excretion, regardless of whether that anger was a vague resentment, an almost completely suppressed rage, an anger expressed verbally, or an anger expressed in violence. Situations that the subject perceived as being of minimal threat-

TABLE 1.—*Excretion Rates Associated with a Situation Arousing Restless Behavior and Feelings of Tension*

Behavior	Water, Cc./Min.	Sodium, μEq/Min.	Potassium, μEq/Min.	Creatinine, Mg./Min.
Pattern A	0.24	34	40	1.042
Average for 18 neutral or tranquil morning periods (av. 4+ hr.)	0.71	119	64	1.363

ening significance and that called forth no major readjustments on the part of the subject were chosen as reference points. These were associated with midrange rates of renal excretion of water, sodium, potassium, and creatinine.

RESULTS

Decreased Excretion of Water, Sodium, and Creatinine.—The following reaction is a characteristic one and will be referred to as pattern A. One of the subjects, a physician, was a conscientious and enthusiastic research fellow in medicine. In the midst of a series of critical observations, his four children became ill in rapid succession. One morning in this setting, he awakened to find his wife also ill. He had a heavy schedule of work ahead but had to remain at home to make arrangements for the care of his wife and family. He called his family physician for instructions but could not reach him immediately. A two-hour wait followed, with the subject becoming increasingly restless and tense. His movements became quick and decisive, and his speech became clipped. He was thinking about the heavy load of work awaiting him at the hospital. During this period, his renal excretion rates were all markedly decreased (table 1). His morning intake had not been significantly different from that of other mornings, and his physical activity was less than usual.

Water Diuresis.—At the end of such a period, the same subjects reported sudden and marked alterations in behavior and feelings, mainly those of freedom from tension and of relaxation (pattern A′). These changes were accompanied by a water diuresis with a relative increase in excretion of sodium, potassium, and creatinine. Subjects experiencing relief from tension during subsidence of attacks of migraine headache often exhibited a striking increase of excretion of sodium, potassium and creatinine, as well as of water, accumulated for days before the attack. The reactions evoked by situations associated with feelings of tension were at times dissipated rapidly and at other times slowly. One subject commonly experienced an abrupt freedom from tension when threatening stimuli and symbols had been removed. This was evidenced by a prompt water diuresis. Another person never showed this immediate response to removal of threatening stimuli. He required 24 to 48 hours for adjustment, even though he considered himself no longer threatened. Toward the end of this relatively long period, he felt himself relaxing and then showed a water diuresis. Another subject showed neither of these responses. His relaxed behavior and feelings of tranquility and freedom from tension were always linked with other emotions. His pattern of renal excretion combined a diuresis of water with other changes in renal excretion.

Increased Excretion of Sodium and Water.—Situations that evoked patterns of aggressive behavior and feelings of serious apprehension or anger were accompanied by increased excretion rates of sodium and water. This will be referred to as pattern B.[2] When the pattern included anger as the prevailing feeling it was referred to as B′. One subject, a research worker, was unusually sensitive to implied or actual rejection by others. She had been adopted early in life by wealthy parents who had hoped to bolster their faltering marriage and had been given whatever she wished that money could buy; however, the adoption had increased rather than decreased tensions in the marriage. She openly preferred her father, who as openly favored her. Her mother was plainly jealous of this relationship and disapproved of much that the child did. A pattern of demanding much from those about her and indulging in temper tantrums whenever her requests were not met at once developed. She was referred to the clinic because of uncontrollable outbursts of anger. During the period of these studies, she worked as a research worker in a large office. Her relationships with her fellow workers were tempestuous, and much of the time she was not on speaking terms with them. On one occasion (pattern B), after some cutting repartee with a colleague, she tested his friendship by asking him to have lunch with her. When he refused, she became infuriated. During this period renal excretion rates for sodium and water were markedly increased (table 2). In addition, there was a slight increase in serum sodium concentration. Situations that the subject felt could best be met by aggressive action, even if not carried out, were associated with a similar increase

TABLE 2.—*Excretion Rates Associated with Situations Evoking Tempestuous Behavior and Feelings of Intense Anger*

Behavior	Water, Cc./Min.	Sodium, μEq./Min.	Potassium, μEq./Min.
Pattern B	2.59	393	52
Average of 13 similar periods	2.47	291	50
Average of 13 neutral or tranquil periods	0.83	65	37

in sodium excretion. This excretion pattern occurred regardless of whether situations evoked feelings of anger without aggressive behavior or aggressive action without recognized feelings of anger.

Decreased Excretion of Water, Sodium, and Potassium.—Situations that elicited behavior featured by sluggish activity, reduced the slow speech, attitudes of hopelessness, and feelings of depression and loneliness were associated with low rates of excretion of sodium and water and generally of potassium. Such responses, referred to as

2. Schottstaedt, W. W., and Wolff, H. G.: Studies on Headache: Variations in Fluid and Electrolyte Excretion in Association with Vascular Headache of the Migraine Type, A. M. A. Arch. Neurol. & Psychiat. 73: 158 (Feb.) 1955.

pattern C, were evoked by situations that caused the subject to feel the threat of loss of affection, social or individual approval, or companionship. One subject was a housewife to whom family and friends meant a great deal. At the time of her participation in these studies, she was living at a considerable distance from the majority of her family. The friendships formed in the new community were therefore of great importance to her. On the day when her closest friend moved to another state, she became listless, depressed, and lonely (pattern C). During this short period, renal excretion rates of water, sodium, and potassium were decreased (table 3). During the only observed incident evoking behavior and feelings of severe fright, there was marked retention of fluid and electrolytes (pattern D). This reaction may be similar to that noted with noxious stimulation and pain.[3]

TABLE 3.—*Excretion Rates Associated with a Situation Evoking Listless Behavior, Slowed and Decreased Speech, and Feelings of Depression*

Behavior	Water, Cc./Min.	Sodium, μEq/Min.	Potassium, μEq./Min.
Pattern C	0.48	78	29
Average of seven similar periods	0.61	54	32
Average of 47 neutral or tranquil periods	0.70	96	54

Increased Excretion of Potassium.—Situations requiring the exercise of special conscious control over behavior and emotional expression were associated with increased rates of excretion of potassium. The subject who had been referred to us because of uncontrollable outbursts of rage (pattern B) ordinarily expressed this anger freely. On one occasion, however, she became extremely angry at her employer for what she considered an insulting comment. Since her job was already in jeopardy because of previous outbursts, she felt compelled to control her anger. During this period, potassium excretion was 153 μEq per minute (pattern E). At no other time did potassium excretion rise above 70 μEq per minute in this subject. Similarly, another subject showed an excretion rate of potassium of 144 μEq per minute during a period of controlled rage evoked by his secretary who had failed to do a job he had repeatedly called to her attention. His average rate of potassium excretion was 69 μEq per minute.

Decreased Excretion of Potassium.—In contrast to pattern E just described, situations wherein control was exercised without conscious effort were accompanied by excretion rates of potassium that were lower than those observed during neutral and tranquil periods. During an evening when her husband was engaged in a political discussion with a guest, one subject showed an excretion rate of 16 μEq per minute, as compared to her average rate of 54 μEq per minute. She took no part in the discussion but was tense and uneasy lest the exchange develop into a quarrel. She was not able to take action. This reaction (pattern F) may be but a variation of pattern A, but it is different enough to isolate provisionally. Relatively low excretion rates of potassium were also observed after the ingestion of alcohol and during sleep. The occasional high rates of potassium excretion observed at night accompanied remembered dreams or restless sleep.

Diurnal Variations and Excretion of Water and Sodium.—Diurnal rates of excretion of water and sodium showed many variations in the pooled data for these subjects. The usually described high excretion rates during the morning hours and low excretion rates during the night were observed in two of the five subjects. In one of the remaining three subjects, water excretion followed this schema but sodium excretion was lowest in the morning and highest at night. In another, both water and sodium excretion were highest at night. In a third, highest excretion rates of both water and sodium were observed during the evening hours. These variations in pattern were clarified by analysis of the usual adaptive reactions and emotions occurring through the 24 hour period. The subject who best illustrated the classical pattern of high morning excretions and low night excretions almost invariably felt and behaved as though she were tired, tense, or depressed on retiring. She had many dreams that appeared to increase her feelings of tension or depression, so that she usually awoke feeling tense and lacking in energy. On the other hand, the subject with the highest excretion rates at night said he always relaxed well at night, fell asleep immediately upon retiring, and awoke feeling invigorated and ready for a new day. He dreamed vividly and frequently but felt that these dreams served to release accumulated pressures and tensions of the previous day. Similarly, the subject whose excretion rates were highest in the evening usually felt stimulated and excited during the evenings. In terms of available energy, this was the high point of his day. The subject with the lowest excretion rates in evening felt that this was the low point of his day. He awakened invigorated and gradually "wore down" during the day, so that by evening he felt tired and lacking in energy, with no desire to participate in the activities of his fellows. In short, diurnal variations in renal excretion of water and sodium were a function not of the hour of the day but of the adaptive state of the subject, indicating behavior, attitudes, feelings, and emotional reactions that were the prevailing features of his day. In these subjects, a situation that evoked a given behavior, attitude, or feeling response in the evening or during the night was associated with rates of renal excretion about the same as those accompanying a similar behavior, attitude, or feeling response occurring during the morning or afternoon. Nocturnal excretion rates showed considerable variation from night to night in all subjects. These variations correlated closely with the subject's state on retiring and awakening and with what he could recall about the night, i. e., that it had been a restless night or that he had had many dreams. When the subject retired feeling tense and awakened feeling tense, excretion rates of water, sodium, and potassium were low. When the subject retired anticipating a situation that he regarded as a "stimulating day to come," excretion rates of water and sodium were high; however, when the subject retired feeling tense and tired but awoke refreshed, excretion rates were intermediate between these extremes. In all events, nocturnal excretion rates correlated well with what the subject could recall about situations, behavior, attitudes, and feelings before, during, and after sleep.

3. Wolf, G. A.: The Effect of Pain on Renal Function, Proc. A. Res. Nerv. & Ment. Dis. 22: 358-364, 1943.

SUMMARY AND CONCLUSIONS

In the maintenance of a constant environment within the human organism, stores of fluid and salt are of paramount importance. When in response to situations, persons were prepared for short, violent action, as for fight or flight, or during situations evoking tempestuous and aggressive behavior with attitudes and feelings of excitement, intense anger, and apprehension, sodium and water loss occurred. Reactions featured by listless behavior, reduced activity, slowed and decreased speech, with attitudes and feelings of despair, hopelessness, and depression, were associated with retention of fluid and electrolytes. Retention of fluid and electrolytes accompanied responses of fright in terrorizing situations and reactions to severe noxious stimulation and pain. When persons were faced with threatening situations eliciting restless behavior, increased alertness, readiness for action, with mixed feelings of confidence, uneasiness, and tension, renal excretion of water and sodium was decreased and body weight was increased. Situations evoking similar behavior and feelings, yet featured by unusual constraint, were sometimes associated with retention of potassium as well. Diuresis of water and salt with resultant weight loss occurred with ending of such periods of threat.

These patterns suggest the responses in man to the threatening situations created by the invasion of microorganisms: retention during the phase of consolidation in pneumonia, diuresis during resolution of consolidation. During protracted efforts to remain alert, on guard, and ready for action, water and salt are conserved. With the ending of the period of threat, diuresis rids the body of excess water and salt. Both patterns are presumably mediated by neurohumoral devices.

The adaptive value of these mechanisms is evident for the basic needs of food getting, self-preservation, and procreation; however, when these devices are inappropriate in amount or when they are evoked as reactions to threatening symbols or sustained interpersonal and social pressures of a threatening nature, these mechanisms serve no useful purpose. Indeed, in persons with marginal circulatory and renal efficiency who have excess fluid accumulation, the retention of additional fluid may be hazardous. The evaluation of any investigative procedures involving fluid and electrolyte balance must include an appraisal of the person's setting and his reactions to the setting.

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TABLE 4.—*Renal Excretion Rates Associated with Various Life Situations*

Situations	Case No.	No. of Observations	Renal Excretion					
			Volume, Cc./Min.	Standard Deviation	Sodium, μEq./Min.	Standard Deviation	Potassium,* μEq./Min.	Standard Deviation
Situations arousing feelings of tranquility	1	47	0.76	±0.17	96	±39	54	± 5
	2	22	0.67	±0.13	97	±39	56	±14
	3	13	0.83	±0.36	85	±18	37	±12
	4	16	0.69	±0.13	100	±39	60	±18
	5	11	1.18	±0.14	246	±33	80	±19
Situations evoking alert behavior, confidence in ability to meet a situation, and feelings of tension (pattern A)	1	31	0.54	±0.16	61	±29	50	±18
	2	11	0.52	±0.11	68	±16	44	±12
	3	14	0.66	±0.17	55	±18	23	±13
	4	24	0.46	±0.09	60	±23	54	±10
	5	11	0.77	±0.20	143	±48	61	±11
Alteration of these situations in direction of neutral or tranquil state and behavior with feelings of freedom from tension (pattern A')	1	23	1.55	±0.39	98	±30	59	±17
	2	2	1.35	±0.46	68	± 1	..	....
	3	5	2.37	±0.81	76	±29	27	±14
	4	..	....	.....	..	....	..	....
	5	..	....	.....	..	....	..	....
Situations evoking reactions as in pattern B but attitudes of retaliation, and feelings of anger (pattern B')	1	4	1.76	±0.66	212+	± 2	96	±31
	2	2	1.12	±0.61	172	±37	74	±19
	3	13	2.47	±0.64	291	±61	56	±22
	4	1	1.38	.....†	387	....	101	....
	5	2	1.91	±0.06	491	±35	127	±24
Situations evoking reactions as in pattern B' but with apprehension more conspicuous than anger (pattern B)	1	10	1.55	±0.34	174	±27	55	±24
	2	5	1.81	±0.49	297	±49	66	±33
	3	2	2.10	±0.69	297	± 9	55	±18
	4	4	1.37	±0.25	336	±32	90	±18
	5	7	1.62	±0.19	376	±51	58	±20
Situations evoking reactions that are a mixture of the contents of patterns A and B	1	7	0.74	±0.13	149	±24	38	±15
	2	11	0.83	±0.09	165	±23	62	±11
	3	1	1.17	.....	192	....	69	....
	4	16	0.78	±0.16	182	±50	81	±24
	5	4	0.98	±0.23	221	±57	57	±14
Situations evoking listlessness, depressive appearance, slow, laconic speech, attitudes of hopelessness or futility, and feelings of loneliness and depression (pattern C)	1	15	0.54	±0.13	57	±21	38	±23
	2	5	0.53	±0.12	68	±20	44	±17
	3	..	....	.....	..	....	..	....
	4	8	0.44	±0.11	59	±27	42	±11
	5	..	....	.....	..	....	..	....

* Nocturnal observation periods omitted.
† One observation omitted.

METASTATIC CARCINOMA OF THE UMBILICUS

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A review of the literature would lead one to believe that carcinomatous involvement of the umbilicus occurs infrequently. We suspect that this lesion is much commoner. In the last few years careful examination of the umbilicus has shown a hard indurated ring or nodule in five cases that were proven to be carcinoma on biopsy. The primary lesion was in the stomach in three cases, while the original site of the others was thought to be the ovary, although this was not confirmed. In 1916, Cullen[1] collected 27 cases of metastatic carcinoma of the umbilicus originating in the stomach. Since that time, sporadic reports have appeared in the literature describing metastatic lesions of the umbilicus. Lombardi and Parsons[2] in 1945 reviewed the literature and added a case, making 38 cases in all. Williams[3] cited two cases, one of which showed a primary lesion in the small intestine; in the other the disease originated in the left kidney. A primary carcinoma of the biliary tract with metastasis to the umbilicus was reported by Rochet and Francillon.[4] Clements[5] recently reported four cases of metastatic carcinoma of the umbilicus. In two of his cases the primary site was undetermined; in the other two the initial lesions were in the stomach and in the ovary.

The pathways of spread for metastatic lesions of the umbilicus are not definitely determined. Vascular spread and contiguous extension have been mentioned. In most cases it indicates a malignant lesion within the abdominal cavity, with extension to a serosal surface. It is our purpose to report five cases of metastatic carcinoma of the umbilicus, in three of which there was a primary lesion in the stomach; the original site of the lesion in the other cases was undetermined, although thought to be the ovary. One of us (H. M. S.) had previously observed two additional cases of metastatic malignant disease of the umbilicus, although the diagnosis did not depend on this finding. One was a far-advanced ulcerating carcinoma of the breast and the other a malignant endothelioma of the round ligament.

REPORT OF CASES

CASE 1.—A 48-year-old woman was admitted to the surgical service of Lincoln Hospital with a chief complaint of pruritus about the navel. For one year she had had cramping abdominal pain without nausea or anorexia. She was told at that time that she had a peptic ulcer. On admission the patient was seen to be of normal stature and weight and in no apparent distress. The only abnormal finding was a small nodule palpated in the umbilicus. It was firm, nontender, and adherent to the underlying tissue. Borborygmi were present. The hemoglobin level was 12 gm. per 100 cc. Roentgenologic examination of the stomach showed a lack of peristalsis in the media, and it was felt that the lesion was extrinsic to the stomach. Additional films revealed an area 3 to 4 cm. in length along the lesser curvature of the stomach through which peristalsis did not pass. This suggested involvement of the greater portion of the lesser curvature by a carcinoma. The day following admission a biopsy of the nodule in the umbilicus showed an adenocarcinoma metastatic to the umbilicus. X-ray and pathological findings gave a diagnosis of adenocarcinoma of the stomach with metastasis to the umbilicus.

CASE 2.—A 67-year-old man was admitted to the surgical service of Lincoln Hospital with a history of a "painful rising on his navel" of two weeks' duration. His illness dated back three or four months, with the gradual onset of abdominal distention, anorexia, malaise, and continued weight loss. Two months prior to admission chills, fever, and hemoptysis developed. At that time the patient was treated for influenza. Physical examination on admission revealed an elderly man in obvious distress. His temperature was 97 F, pulse 100 beats per minute, respirations 28 per minute, and blood pressure 140/90 mm. Hg. His skin showed lack of elasticity and decrease in subcutaneous fat. There was moderate ascites. A large mass was palpated in the epigastrium. A firm ulcerating nodule was seen in the umbilicus. There was a questionable rectal shelf. The pertinent laboratory studies showed 2 million red blood cells per cubic millimeter, 9,500 white blood cells per cubic millimeter, and a hemoglobin level of 7.75 gm. per 100 cc. Roentgenologic examination showed an intrinsic deformity of the stomach, with evidence of extensive pressure in the region of the antrum, as well as displacement of the third and fourth portions of the duodenum. On the second hospital day a biopsy of the umbilical mass was performed. Histological examination showed metastatic adenocarcinoma of the umbilicus. The patient's course in the hospital was steadily downhill, and he died on the fourth hospital day. No permission for autopsy was obtained. The x-ray studies, biopsy report, and definite clinical findings supported the diagnosis of adenocarcinoma of the stomach with metastasis to the umbilicus.

CASE 3.—A 47-year-old woman was admitted to Lincoln Hospital with a history of vague abdominal pain of two weeks' duration. A week prior to admission she noted a gradual enlargement of her abdomen. There was an associated history of anorexia and generalized weakness. She had received roentgen therapy for excessive uterine bleeding six years previously. On admission, physical examination revealed a middle-aged woman in obvious distress. There was no cardiac enlargement or bruit. The chest was clear. There was evidence of marked ascites. No abdominal masses could be palpated. Pelvic examination was unsatisfactory because of obesity and tenderness. No adnexal masses were palpated. There was a firm mass 2 cm. in diameter at the upper edge of the umbilicus. Laboratory findings were not unusual. Results of roentgenologic examination of the upper and lower intestinal tracts were normal. Abdominal paracentesis and a biopsy of the umbilical mass were performed. The microscopic studies showed metastatic adenocarcinoma of the umbilicus; the histological picture suggested a primary site in the ovary. Death occurred several months later.

CASE 4.—A 60-year-old man was admitted to the medical service of Lincoln Hospital with a history of upper abdominal pain, dysphagia, and weight loss of two months' duration. Roentgenologic examination of the stomach showed somewhat sluggish peristalsis and about 25 to 30% retention at six hours. There was some spasm and distortion of the antral portion of the stomach and the pyloric channel. There was a small, relatively constant fleck of barium in the channel area. The im-

1. Cullen, T. S.: Embryology, Anatomy, and Diseases of the Umbilicus, Together with Diseases of the Urachus, Philadelphia, W. B. Saunders Company, 1916.

2. Lombardi, L. E., and Parsons, L.: Carcinoma of the Umbilicus Metastatic from Carcinoma of the Stomach, Ann. Int. Med. 22: 290 (Feb.) 1945.

3. Williams, C.: Unusual Surgical Lesions of the Umbilicus: Report of Cases of Congenital Origin, Ann. Surg. 124: 1108 (Dec.) 1946.

4. Rochet, F., and Francillon, M.: Tumeur de l'ombilic, metastase d'un neoplasme des voies biliares, Lyon med. 167: 239 (March 29) 1942.

5. Clements, A. B.: Metastatic Carcinoma of the Umbilicus, J. A. M. A. 150: 556 (Oct. 11) 1952.

pression at that time was a channel ulcer with gastric retention. Physical examination on admission showed an elderly man in no acute distress. The abdomen contained a moderate amount of ascitic fluid. A mass about the size of an orange could be palpated in the epigastric region. There was also a small mass in the umbilical region. On rectal examination there was a large rectal shelf. Laboratory findings were normal except for moderate anemia. On the second hospital day a biopsy of the umbilical mass was performed. Sections showed an undifferentiated carcinoma in the tissue from the umbilicus. A diagnosis of carcinoma of the stomach with metastasis to the umbilicus was made on these findings.

CASE 5.—A 53-year-old woman was admitted to the medical service of Lincoln Hospital complaining of progressive dyspnea of 17 months' duration. In the intervening months she had dieted under medical supervision, going from a weight of 250 to 157 lb. (113.4 to 71.2 kg.), and had been repeatedly examined by several physicians and clinics without definite diagnosis. Examination showed an ill-appearing Negro woman with much dyspnea. Temperature was 100 F, pulse 100 beats per minute, and respirations 26 per minute. The abdomen was distended; there was moderate ascites. The left pleural cavity was filled with fluid. On pelvic examination a mass was felt filling the pelvis. A rectal shelf was present. In the umbilicus there was a small, pea-sized, hard nodule. Laboratory studies showed 3,350,000 red blood cells per cubic millimeter, 6,600 white blood cells per cubic millimeter, and a hemoglobin level of 10.6 gm. per 100 cc. Blood studies were all within normal limits. Roentgenographic examination confirmed the finding of the left thorax obscured by fluid. The abdominal roentgenograms showed no detail, owing to great persistent obesity. Barium enema and gastrointestinal studies showed distortion due to extrinsic pressure. Thoracocentesis on four occasions produced from 400 to 800 cc. of bloody fluid. Cytological studies showed cells thought to be malignant. A biopsy of the umbilical nodule with the use of local anesthesia was performed on the fourth day after admission. A histological diagnosis of metastatic adenocarcinoma of the umbilicus, most probably from the ovary, was made. Palliative roentgen and chemical therapy was refused by the family. The patient is still living (six weeks) but remains dyspneic.

SUMMARY AND CONCLUSIONS

Carcinomatous lesions of the umbilicus may occur more frequently than is evident from the literature. They usually represent metastasis from primary intra-abdominal growths. Metastatic malignant disease of the umbilicus may frequently be overlooked because of the lack of thorough examination in this area. A metastatic nodule in the umbilicus may be the only abnormal finding on physical examination in a patient with intra-abdominal carcinoma. There should be more careful inspection of the umbilicus, particularly in cases of suspected malignant disease. A simple biopsy of this area may spare the patient a needless major operation.

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Anticoagulants in Myocardial Infarction.—It is impossible to determine the prognosis of an acute myocardial infarction during the first 48 hours of the attack with enough accuracy to justify the withholding of anticoagulants. . . . [If] the onset was 48 or more hours previous to the initial observation . . . enough critical hours have elapsed to make a safe estimate of the prognosis which, if satisfactory, would justify the withholding of anticoagulants. In all of the other cases it is recommended that anticoagulants be administered initially for at least two days, until a more accurate prognosis can be established. After that the anticoagulants may be withdrawn in those considered to have a good prognosis.—M. M. Halpern, M.D.; L. Lemberg, M.D.; M. Belle, M.D., and H. Eichert, M.D., Selective Use of Anticoagulants in Acute Myocardial Infarction Based on Initial Prognosis, *Annals of Internal Medicine*, November, 1954.

CLINICAL NOTES

PREVENTION OF POSTOPERATIVE SUBCUTANEOUS FLUID COLLECTION BY SUCTION

John E. Connolly, M.D., San Francisco

Postoperative collections of fluid under widely dissected skin flaps can be annoying complications after radical mastectomies and dissections of the neck or groin. Repeated aspirations are frequently necessary and may delay a patient's discharge from the hospital and cause delayed healing. In the past, reliance has been placed mainly on cumbersome pressure dressings that usually prove ineffective. Since adopting a simple, subcutaneous suction technique two years ago, there has been no instance in some 40 radical mastectomies in which the skin flaps did not stick by primary intention. This procedure was first suggested by Raffl in 1952.[1] Because of the remarkable improvement in the after-care of these patients, this procedure should be brought more widely to the attention of the medical profession. The technique is a modification of Raffl's, and its use has been successfully extended to radical dissections of the neck or groin, and indeed, to any operation in which a dead space results beneath the skin.

TECHNIQUE

Previously the flaps were tacked down by sutures, and Penrose drains were introduced through a stab wound with a pressure dressing. Now after careful hemostasis the skin is sutured together in one layer, and two 16 F. or 18 F. Robinson catheters are passed through a lateral stab wound and then connected with an electric Wangensteen suction apparatus.

In patients with breast operations, about three-quarters of each catheter is within the wound under the lateral flap and 8 or 10 extra holes are cut in each catheter for more efficient suction. One catheter is placed up toward the clavicle and the other downward and medially (see figure). The stab wound is made to approximate roughly the size of the two catheters, and a purse-string suture serves to close the wound in a somewhat airtight manner and in addition anchors the drains so they do not fall out in the early postoperative period. Care must be taken to see that none of the newly cut holes in the catheter protrudes beyond the stab wound lest the effect of the suction be lost. A light dressing is placed over the wound, and a rubber band or small clamp closes the ends of the catheters. When the patient has been returned to his room, a Y-tube is connected to the two catheters and in turn to an electric Wangensteen suction machine. Care is taken to anchor the redundant tubing to the bed by a safety pin so that if the patient inadvertently turns, the tubes will not be prematurely removed. Suction has been arbitrarily continued for 48 hours after which the purse-string su-

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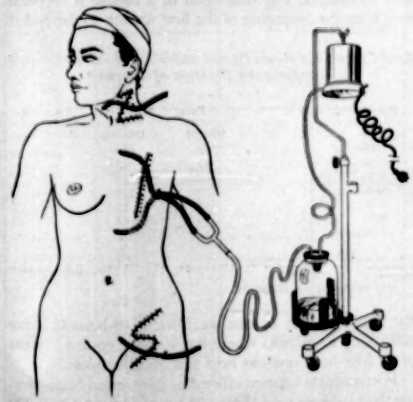
1. Raffl, A. B.: The Use of Negative Pressure Under Skin Flaps After Radical Mastectomy, Ann. Surg. 136:1048, 1952.

ture is released through a small, circular incision in the dressing; and while holding the flaps down by gentle manual pressure, the catheters are removed individually. Care in this step is very important, as roughness will undo all the good by elevating previously adherent flaps. The amount of drainage obtained by suction has never exceeded several hundred cubic centimeters of fluid in the radical mastectomies and frequently is much less. This compares most favorably with the amounts obtained previously using the same surgical technique but without mechanical suction. The obvious explanation is that by suction the flaps quickly stick to the underlying structures, thus preventing the exudation of fluid. If the amount of collected fluid is great, one should suspect that the flaps are not securely stuck throughout the wound. The method was used for radical neck and groin dissections in exactly the same manner as described above, except that one catheter is used in place of two because of the smaller area beneath the flaps in these dissections.



Mechanical Wangensteen suction apparatus connected to drains from chest wound, showing single drains placed for neck and groin wounds.

SUMMARY

By the simple use of mechanical suction for 48 hours after operation, the previously troublesome, subcutaneous fluid collections seen after radical mastectomies and neck and groin dissections can be prevented.

Clay and Webster streets (15).

DRESSING FOR WOUNDS WITH DELAYED HEALING

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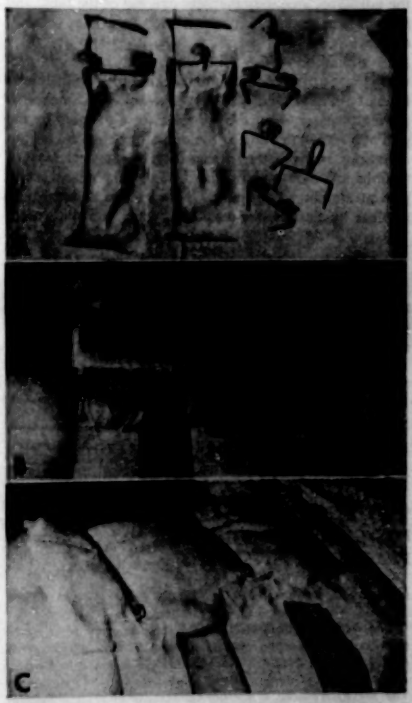
Most surgically closed wounds in this age of aseptic surgery and/or antibiotic therapy heal rapidly and are dressed only two or three times during healing. The patient's skin is thus not subjected to the barbaric injury of repeated removals of adhesive. However, in the infected traumatic laceration, or the abdomen that has been operated on in the presence of peritonitis, or an osteomyelitic sinus, drainage may prolong convalescence by weeks. Such patients may require frequent changes of dressing, and, if the adhesive is changed as often, they will quickly lose their skin. Many methods have been used to avoid this exigency, such as cutting the tape each time and adding more on top without disturbing the tape that is on the skin. Various elastic dressings have been used, such as the use of applicator sticks in the ends of the tape strips.[1] A commercial product consisting of a large sheet of adhesive with eyelets has been so employed, but ready-made dressings do not seem to be adaptable to sites other than the abdomen. Even on the abdomen, a broad mass of tape will wrinkle and cause discomfort both when the patient lies still and when he tries to move about. Ties of inelastic material are always too loose to keep the bandage in place, or too tight for the patient's comfort.



A, single and double hooks. Note that adhesive tape extends toward wound beyond hooks. *B*, adhesive strips applied to abdomen over tincture of benzoin. *C*, bandage held in place by rubber bands placed across hooks.

It is possible to avoid these difficulties by the use of the wire hooks shown in the figure. In *A* two forms are shown, one with a single hook and one with a double hook for use with 2 in. adhesive tape; however, either may be made smaller to fit the 1 in. wide adhesive. They are

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1. Overholt, R. H.: Method of Securing Gauze Dressings on Draining Wounds, S. Clin. North America, 12: 761 (June) 1932.

made from no. 20 stainless steel wire, which is easily bent into shape with the help of a small-nose plier. A stab wound in the center of the adhesive is sufficient for the single hook, and a slit at each side of the adhesive suffices for the two hook device. The figure, *B*, illustrates the application to the skin. The skin should first be cleaned with ether well away from the wound then painted with two or three coats of compound tincture of benzoin. When the latter is tacky or nearly dry, the adhesive may be applied. The tapes are serviceable for 10 days to two weeks. The compound tincture of benzoin prevents maceration and abscess formation under the adhesive, increases the adhesiveness of the tape, and is soluble in alcohol, hence facilitating the later removal of the tape.

Continuation of the adhesive toward the wound prevents the gauze bandage from sticking to the under surface of the tape and also serves as an extra anchor to prevent separation of the adhesive from the skin by the pull of a bulky dressing. If the discharge from the wound is copious and soils the surrounding area, a single coat of flexible collodion over the medial leg of the adhesive will prevent staining. The figure, *C*, illustrates a bandage held in place by elastics, the tension of which may be varied.

SUMMARY

A method for dressing the chronic draining wound with the use of hooks and adhesive tape provides comfort for the patient, promotes rapid change of dressing, will not irritate the skin, and is easily done. The dressing will stay in place from 10 days to two weeks.

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SPECIAL ARTICLE

TIME AND PLACE ARRANGEMENTS OF POSTGRADUATE COURSES FOR PRACTICING PHYSICIANS

Douglas D. Vollan, M.D., Chicago

The following article is the fifth in a series of eight which together constitute the report of a two and one-half year survey of Postgraduate Medical Education by the Council on Medical Education and Hospitals of the American Medical Association. The survey included a questionnaire study of a large random sample of practicing physicians as well as detailed analyses of the postgraduate courses offered by the numerous sponsoring institutions and organizations. The last article in the series, entitled "Educational Methods in Postgraduate Teaching," appeared in THE JOURNAL, *April 9, 1955, page 1302.*

Among the many unique features of postgraduate medical education that set it apart from undergraduate and graduate medical education are the time and place arrangements of individual courses. Courses must be made available at times and places that are suitable to physicians engaged in active medical practice. Apart from the general nationwide maldistribution of postgraduate opportunities,[1] it has been shown that one of the chief deterrents to greater attendance is the fact that courses are offered at times unsuitable to many physicians.[2] In postgraduate education time is at a premium, since the practicing physician cannot leave his patients for long periods and desires to obtain the maximum possible benefit in the shortest possible time.

DURATION OF POSTGRADUATE COURSES

A few terms must be defined as they are used in this article. A postgraduate program is the sum total of all postgraduate offerings of a particular institution or organization. It consists of one or more courses, each of which is divided into a number of sessions that may follow each other consecutively or at varying intervals of time. The duration of a course is defined as the total number of hours of instruction offered in its sessions, which is obtained by multiplying the number of sessions by the number of hours in each, if all sessions are of equal length. The interval between the individual sessions of the course offered in interrupted fashion may vary from days to months. The time span of a course is the total time from the beginning of the first session to the end of the last. This may be one week for a 40-hour full-time course, or 10 months where the 40-hour course consists of 10 four-hour sessions held at monthly intervals.

Total Courses and Hours Offered and Total Physician-Hours of Attendance, by Duration of Courses *

Duration of Course, Mo.	% of Total Courses Offered	% of Total Hours Offered	% of Physician-Hours of Attendance
Under 1	90.8	63.6	86.4
1- 2	1.1	4.1	0.2
2- 3	2.2	15.4	6.8
3- 6	1.0	12.3	0.5
6- 9	0.1	1.0	....
9-12	0.2	4.1	6.1
Unknown	4.6	....	....
Total	100.0 (2,085 base)	100.0 (130,477 base)	100.0 (1,481,101 base)

* One month equals 160 hours.

Postgraduate courses offered in the United States during the academic year 1952-1953 ranged from 1 to 2,000 hours of instruction. For convenience these have been grouped into days (8 hours) weeks (40 hours) and months (160 hours). With these definitions a course consisting of eight one-hour sessions at monthly intervals would be classified as a one-day course. The mean duration for all courses was 67 hours or the equivalent of 8.4 days. The table shows that the vast majority of courses offered are under one month in duration, though courses ranging from two to six months in duration accounted for over a quarter of the total hours offered. The disproportionately high percentage of physician-hours of attendance at courses of less than one month is an indication of the relatively greater demand for such courses as compared to those of longer duration.

Formerly Assistant Secretary, Council on Medical Education and Hospitals, American Medical Association, aided by the Council's Committee on Postgraduate Medical Education, composed of Drs. Donald G. Anderson, James M. Faulkner, Edward L. Turner, and Edward H. Leveroos.

A complete description of the sample, returns, and methods of the survey will be made available as an appendix in the reprint edition of the series to be published later this year.

1. Vollan, D. D.: Scope and Extent of Postgraduate Medical Education, J. A. M. A. 157: 703 (Feb. 26) 1955.

2. Vollan, D. D.: The Physician as a Lifelong Student, J. A. M. A. 157: 912 (March 12) 1955.

Detailed examination of the courses under one month's duration (fig. 1) reveals that most are under two weeks. The number of courses under one week is almost double the number between one and two weeks, but accounted for a lower percentage of the total hours offered. The highest percentage of attendance was at the under-one-week group, which suggests that courses under 40 hour's duration are most in demand. Further analysis of courses under one week in duration reveals a fairly equal distribution in the number of courses from one to five days in length, while only a few were under one day (fig. 2). The percentage of physician-hours of attendance was significantly higher than the percentage of hours offered in each of the categories, but most markedly so for courses ranging near the three-day mark. This indicates a relatively high demand for courses of this length.

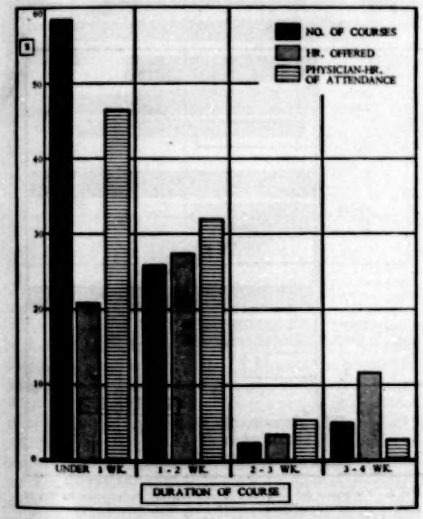

Fig. 1.—Courses under one month in duration: percentages of total courses offered, of total hours offered, and of total physician-hours of attendance, by total duration of courses in weeks (with one week equal to 40 hours).

SEASONAL VARIATIONS

Most of the courses offered in the United States in 1952-1953 overlapped from one season to another. Among the physicians responding to the questionnaire the seasons of preference for postgraduate courses in order were spring, winter, summer, and fall. For the nation as a whole the differences were not great, and about 40% of the physicians expressed no seasonal preference. Figure 3 shows regional distribution of preference.

Some institutions offer the same course a number of times during the year in order to meet varying seasonal needs of physicians. In most instances courses are repeated only once. Some are repeated two or three times, while a few are offered weekly throughout the year. Twenty-five per cent of the courses offered in 1952-1953 were repeated at least once, thereby accounting for 58.3% of the total courses offered (fig. 4). The percentage of physician-hours of attendance closely parallels the percentages of different courses whether offered once or repeated, indicating that repeated offerings of courses have very little effect upon their use by physicians.

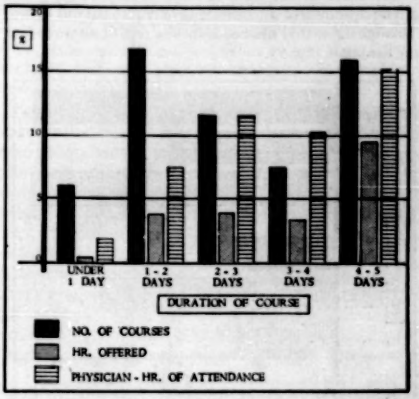

Fig. 2.—Courses under one week in duration: percentages of total courses offered, of total hours offered, and of total physician-hours of attendance, by total duration of courses in days (with one day equal to eight hours).

TIME ARRANGEMENTS OF COURSES

Postgraduate courses can be divided into two basic types with respect to the manner in which individual sessions are related to each other. The first type is the concentrated course, in which the individual sessions follow one another immediately day after day in such a way that the physician attends the course from beginning to end as a full-time student. The second type is the intermittent course, in which the individual instructional sessions are separated by periods of days, weeks, or months.

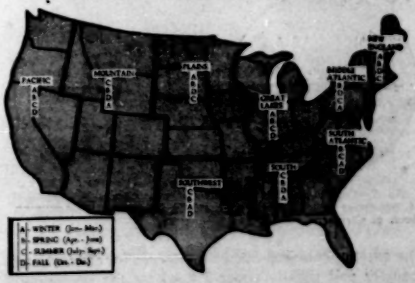

Fig. 3.—Seasonal postgraduate course preference of physicians by region (seasons listed in each region in order of preference).

There is a third group of postgraduate courses that cannot be classified in either of the two major categories. These are the specially arranged or "tailor-made" courses, in which no definite time plan is announced, but in which the individual physician works out a schedule to fit his

own needs with the dean, postgraduate director, or department head. More than 60% of the courses offered in 1952-1953 were of the concentrated type, most of the remainder being intermittent. Tailor-made courses were not included for lack of available data. Over four-fifths of the hours offered were of the concentrated type, and physician-hours of attendance closely parallel this figure. This indicates that the needs in this regard approximate the demands (fig. 5).

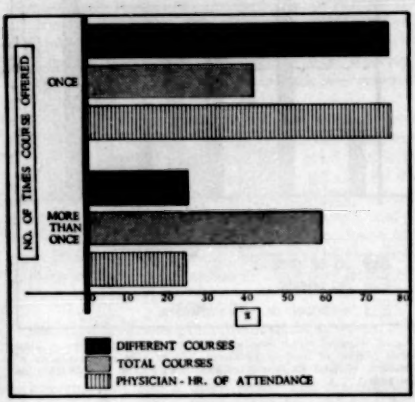

Fig. 4.—Frequency of course offerings: percentages of different courses offered, of total courses offered, and of physician-hours of attendance.

The relative use of the two types, however, varies considerably from one region to another. The distribution of concentrated and intermittent courses is nearly equal in the Middle Atlantic states, in the South and in the Pacific states, while the Plains states, the Southwest, and the Mountain states are heavily weighted in favor of the concentrated type. Over half of the physicians responding to

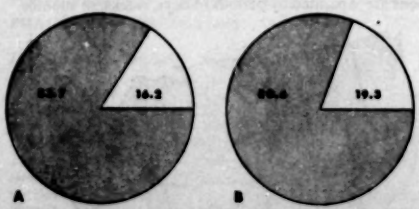

Fig. 5.—Concentrated and intermittent courses (0.1% were unspecified). *A*, percentage of total course hours offered, *B*, percentage of physician-hours of attendance.

the questionnaire indicated a preference for concentrated courses and slightly under a third for the intermittent type, with the rest expressing no particular preference. This distribution approximates the existing proportion of courses offered in the two categories.

It has been suggested that the size of the city in which a physician resides may play an important role in his preference for concentrated or intermittent courses. In cities with populations of a million or more the preferences expressed were opposite to those of the entire nation. Physicians in cities under 250,000 population showed a strong preference for concentrated courses, which would in most instances necessitate travel to a medical center (fig. 6). City physicians are likely to prefer intermittent courses that they can attend at intervals while continuing their practice.

Concentrated Courses.—Physicians are more likely to complete an entire concentrated course for which they have come some distance and made special arrangements to attend than they are to regularly attend weekly sessions of intermittent courses. Freedom from the obligations of their practice permits better concentration on postgraduate study. Concentrated courses may vary in duration from one day to a year of full-time study. The average length of concentrated courses offered in 1952-1953 was 90.5 hours, over three times that of intermittent courses. Physicians in this survey were asked to indicate the maxi-

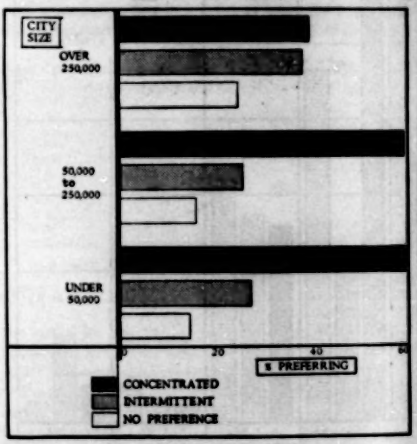

Fig. 6.—Preference for concentrated and intermittent courses, by size of city in which physicians reside.

mum number of days they could absent themselves from practice at any one time to attend a postgraduate course (fig. 7). Among those responding to this part of the questionnaire, the range was from one to over 30 days, with a median of 7.5 days. Almost three-fourths of the respondents indicated a maximum of 10 days or less, while over 90% considered 15 days or less a maximum. Concentrated courses of three, five, and seven days are likely to meet most of the needs for this type. A substantial group might be expected to attend courses of 10 days to two week's duration.

Intermittent Courses.—Individual sessions of intermittent courses vary from an hour to a day and are separated by intervals of days, weeks, or months. Over a third of the courses offered are of the intermittent type, but they account for less than a fifth of the total instructional hours offered. The average intermittent course consists of 29 hours. Advocates of intermittent courses believe that the presentation of a great amount of factual material in a

brief concentrated course may not result in as much retention as when the same amount of instruction is spread out over a longer period. Systematized, assigned home study between sessions of an intermittent course can add much to the continuity of such programs.

"Furthermore, when the instruction is spread out over a year and is taken at the same time that practice continues, its application to the clinical examination of patients is much more clear and the temptation to establish

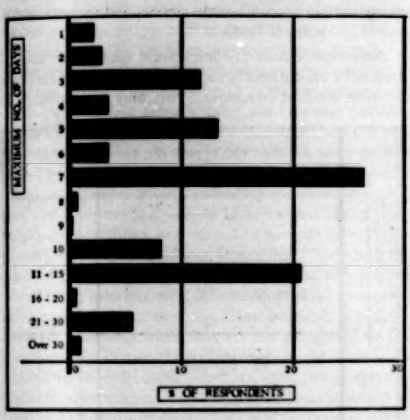

Fig. 7.—Maximum number of days physicians indicated that they could be away from their practices at one time to attend concentrated postgraduate courses.

various progressive features of recent medical advance in actual practice is very great." [3] Most of the courses in undergraduate years of medicine are in the form of one or more hourly sessions weekly over a period of a quarter or semester and are essentially intermittent in nature. Although this type does not make possible sustained study of hospitalized patients, weekly or monthly follow-up of ambulatory patients can be pursued more effectively in intermittent than in concentrated courses. The intermittent type is especially valuable to physicians in large metropolitan areas who can incorporate the sessions into their regular professional schedules and for extramural postgraduate teaching in small rural centers, where the "circuit" system is used. Some medical schools use this type because of the ease of scheduling short sessions and avoiding conflicts with undergraduate and graduate programs.

The length of individual sessions of intermittent courses varies considerably. A weekly one-hour session in a medical school may be satisfactory for a physician residing in that city, but many physicians in outlying areas would hesitate to travel several hours to attend such a short session. Intermittent courses usually have intervals of one week, two weeks, or one month between sessions. The total time span of intermittent courses varies considerably, from a month or six weeks to a whole year. Those with longer intervals generally have longer total time spans. Although about a third of the physicians responding to the questionnaire had no preference as to the day of the week on which sessions should be held, midweek days were most frequently preferred (fig. 8). The locally accepted "doctors' day off" is an important consideration in any region. Physicians indicated preference for evening, morning, and afternoon sessions in that order. Combination afternoon-evening sessions also were indicated to be desirable. About 25% had no preference. It is possible that as postgraduate opportunities become more fully developed, more physicians may establish regular weekly periods for their use.

Tailor-Made Courses.—Over a third of the medical schools in the United States offer some postgraduate study opportunities without announced time schedules. These tailor-made courses can be arranged to fit the content needs and time requirements of the physician. Usually the head of a department or the postgraduate program director maps out a plan of study for the physician after conferring with him concerning his special needs and the amount of time available. The "registered observer" is then permitted to attend lectures, clinics, and rounds that constitute regular portions of the undergraduate or graduate programs of these institutions. Some allow considerable supervised case work and some offer short-term

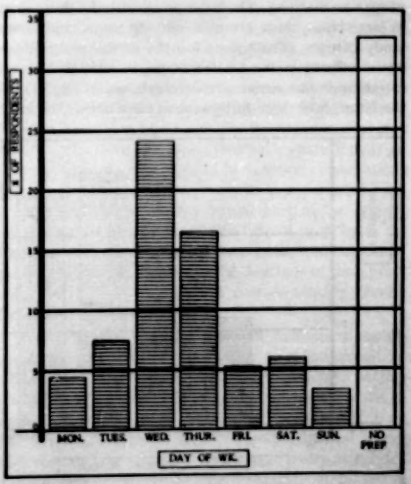

Fig. 8.—Preference for certain days of the week for individual sessions of intermittent courses.

residency training. Without a definite purpose and plan such work offers little, and unless a physician is given adequate attention he may gain little of value.

LOCATION OF POSTGRADUATE COURSES

For medical students, interns, and residents, who stay at medical schools and hospitals for a year or more at a time, it matters little whether the traveling distance is 100

3. Medical Society Postgraduate Work, Medical Economics, J. A. M. A. 49: 870 (Sept. 7) 1907.

or 500 miles. In postgraduate education periods of a half day to two weeks are involved, making distance and travel time factors of great importance. This raises the question as to whether to bring the physician to the teachers or vice versa. Courses may be divided into two groups on the basis of the location of the physicians while attending: intramural courses, which take place within undergraduate, graduate, or postgraduate medical schools or teaching hospitals; and extramural courses given outside

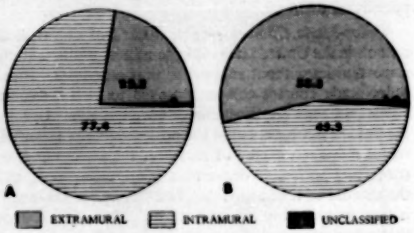

Fig. 9.—Percentages of (*A*) total course hours offered and of (*B*) physician hours of attendance, by location in or outside medical schools.

of such institutions. The latter group includes those given in large cities, those given in outlying towns, and home-study courses. Over three-fourths of the postgraduate hours offered in the United States in 1952-1953 were intramural. The remainder were extramural (fig. 9). Of the latter, over three-fifths were in large cities. The intramural group, however, accounted for less than half of the physician-hours of attendance, with the extramural group accounting for over half. Proximity to a medical school did not seem to be a significant factor in stimulating postgraduate course attendance. In fact, the lowest percentage of physicians reporting attendance in the past five years was among those living nearest the schools. The percentage attending increased with distance from a medical school (fig. 10).

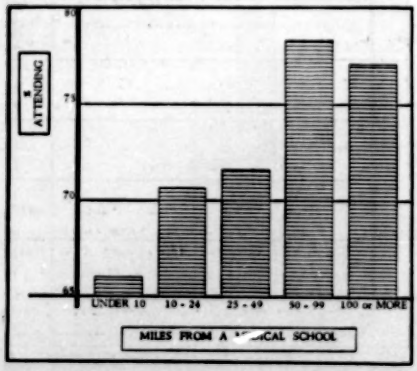

Fig. 10.—Attendance at postgraduate courses in the past five years, by distance of physicians residence from nearest medical school.

The maximum number of miles physicians will travel to attend courses is of great significance to postgraduate course planners. Nearly two-thirds of the physicians responding to the questionnaire indicated that they would travel 100 miles or more to attend a complete concentrated course (fig. 11). Distance does not appear to be a major factor in determining attendance at concentrated courses, but over a fifth of the respondents indicated that they would not travel more than 10 miles for the individual sessions of an intermittent course, and only 6% would travel 100 miles or more.

Intramural Courses.—Intramural courses are considered to be educationally superior to the extramural type by most medical educators. This may be attributed to

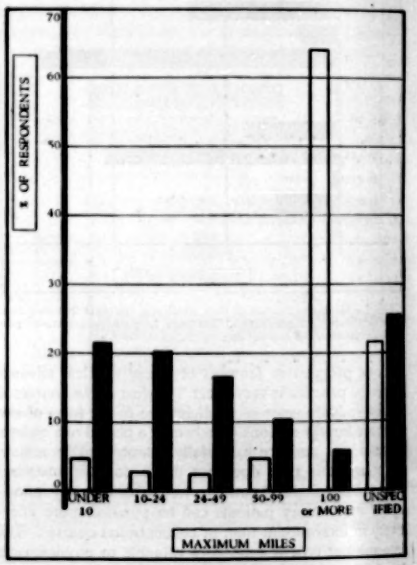

Fig. 11.—Maximum travel distance indicated for complete concentrated courses (white bars) and for individual sessions of intermittent courses (shaded bars)

the academic atmosphere of the medical school as well as the freedom from interruptions that divert the physician's attention from his studies. There is opportunity for supervised participative learning through close contact with the faculty members, and the physician is more likely to enter freely into discussions than he might be if his local colleagues were present. Courses given in teaching institutions can draw upon large faculty resources without subjecting instructors to long periods of travel and without unduly interrupting other teaching duties. The facilities of teaching institutions—classrooms, laboratories, libraries, hospitals, equipment, clinical material—are generally available and can be more efficiently used by faculty members who are well acquainted with them. Physicians residing in the cities in which medical schools

are located remain the slaves of their practices while attending intramural courses in their own communities. For those living outside of these cities, attendance at intramural courses requires expensive travel and living costs and loss of income while away from their practices. These are important factors in limiting the use of intramural courses.

Facilities used for intramural postgraduate courses may be of two kinds: (1) the existing plants of medical schools and their hospitals and schools of public health, whose primary purpose is undergraduate or graduate teaching; and (2) facilities whose primary purpose is postgraduate education. Postgraduate courses were given in all but 10 of the medical schools in the United States in 1952-1953. These schools offer the essential requirements for optimum postgraduate education, such as lecture and conference rooms (a few schools have special rooms for postgraduate teaching), laboratories, autopsy rooms, x-ray departments, pathology museums, teaching aids and equipment, a well-stocked medical library, administrative facilities, and access to patients both in the hospital and in the outpatient department. Medical educators who are concerned that the competition for facilities [4] may interfere with their undergraduate programs have made their schools' facilities available for postgraduate work only when they are not being used by the undergraduate classes. This often restricts the availability of facilities to undesirable times and relegates postgraduate medical education to a secondary status. Satisfactory intramural postgraduate work cannot be carried out in the long run unless the director of the program has control of an adequate amount and variety of space and facilities to be used at the times and in the manner essential to good teaching.

Postgraduate and graduate medical schools are the most important special facilities for postgraduate education in the United States. They will be discussed in a later article in this series. Another form of special facility for intramural postgraduate courses is the continuation center. Of the seven existing centers in the United States, only a few have medical postgraduate programs.[5] Two medical schools have developed small centers of this type exclusively for physicians. Continuation centers usually include classrooms and other educational facilities, as well as living, dining, and recreational areas. They offer reasonable room and board and eliminate loss of time in traveling to and from hotels as well as the intangible values of living on the campus and associating with students from other disciplines. It is doubtful whether large enterprises of this kind would be economically sound unless used jointly by all divisions of a university.

Extramural Courses. — Extramural postgraduate courses are those that are given outside undergraduate, graduate, or postgraduate medical schools and their teaching hospitals, whether in large cities or small outlying centers. Home-study courses and remote courses by telephone or television are forms of extramural postgraduate medical education.

Extramural courses in large cities, which make up only 13.7% of the course hours offered, account for 46% of the physician-hours of attendance because of the large national specialty society courses and "assemblies" or "congresses" of the mass meeting type. The chief advantage of this type of course is that it makes it possible to bring a number of prominent men before a great many physicians at one time, with living and dining accommodations in immediate proximity. Some of the larger independent hospitals and clinics approved for graduate training in one or more of the specialties are well equipped to offer postgraduate courses. Since most large city hospitals with sufficient clinical material and staff are probably already affiliated with medical schools, it would be less confusing to physicians for postgraduate courses at such institutions to be offered under the aegis of the schools. Where a hospital or clinic of sufficient size and quality to give postgraduate work exists in a large city without a medical school, it may well be the focus of postgraduate activities in that area.

Extramural postgraduate education in small centers, although accounting for less than 10% of the offerings and attendance, has nevertheless been the subject of a vast amount of discussion. In the final report of the Commission on Medical Education in 1932 it was stated that "the most important and largest part of the postgraduate program should be directed toward taking education opportunities to the practicing physician in his own community or to centers to which he can go without leaving his practice." [6] Since the instructors must travel some distance to give the instruction, such courses are almost invariably of the intermittent type and many use the physicians' own patients for clinical teaching. The hesitancy on the part of some physicians to express themselves before their local colleagues may be avoided by intimate consultations between the instructor and physician over the latter's patients as an adjunct to the formal part of the course. Among the disadvantages of this type of program is the tendency of some physicians to register and then miss parts of the course because of the demands of their practice. Another is the excessive cost of sending faculty teams out.

There are two different types of extramural small-center courses. One of these is the so-called circuit, in which the instructors cover a number of teaching centers during a week or more, spending from an hour to a day at each. The other is the "regional" program in which an instructor or a team of instructors from a medical school visit various teaching centers in an area every month for a day or more. The circuit type is currently employed in at least 10 different states and has been attempted in at least 15 others, with varying degrees of success. After many modifications, one of the oldest of these programs has finally developed a plan to reach the physicians in

4. Turner, E. L.; Wiggins, W. S.; Vollan, D. D., and Tipner, A.: Medical Education in the United States and Canada: Fifty-Fourth Annual Report on Medical Education in the United States and Canada by the Council on Medical Education and Hospitals of the American Medical Association, J. A. M. A. 156: 137-176 (Sept. 11) 1954.

5. Continuation Study Centers, unpublished report, Department of Extension Investigation and Research, General Extension Division of Florida, Gainesville, Fla., 1954, pp. 1-2.

6. Rappleye, W. C.: Final Report of the Commission on Medical Education, New York, Office of the Director of Study, 1932, p. 140.

each of five centers in the state one evening a week for eight successive weeks. Another divides the state into 10 districts of five centers each, with 10 weekly sessions held in each center.

Regional programs are a more recent innovation. Many of these programs are organized as an affiliation between a medical school and outlying hospitals. A more frequent arrangement is that in which a medical school periodically sends a teaching team out to physician groups organized by a local medical society. Many of the hospital-centered plans include a house staff rotation program with the affiliated hospital in order to give the interns and residents a better understanding of rural medicine and to give local physicians an opportunity to learn from these recent medical graduates. The basic postgraduate element of such plans, however, is the visit at regular intervals by members of the medical school faculty.

The many regional programs that use local medical society groups also vary considerably. Some consist of an annual one-day lecture-discussion session, often called a "seminar" or "institute," in an outlying small town. Some schools may have 15 or 20 such centers to which they send a teaching team once or twice a year, while others offer a series of as many as 30 or 40 sessions of one or two hours at each of 8 or 10 centers in a year. In some cases four or five centers are chosen, at each of which a two or three-day concentrated refresher course is offered once a year. Although some of these programs are of unquestionable value, sporadic "one-night stands" sprinkled over a state in the course of a year can do little to meet the over-all postgraduate needs of an area. Nevertheless, county medical societies should be developed as foci of extramural postgraduate teaching in small centers.

Postgraduate education may be brought directly into the homes or offices of individual physicians in various forms of home study. The use of television in this connection has been discusssed in the preceding article of this series. Correspondence course work has become a respected form of education in many fields of learning since it was first employed in Germany in 1856 [7] and has enjoyed renewed interest since the end of World War II in many institutions of higher learning.[8] Medical postgraduate correspondence courses have been used with success by the Army and Navy for many years. One national specialty society sponsors a program of home study as a review of the field and as an adjunct to graduate training. In recent years, a few medical schools have developed successful postgraduate courses using the home-study technique, often supplemented by slides and recordings. The use of examinations in connection with home study could introduce an element of two-way contact between instructor and physician.

There is yet another type of extramural postgraduate education that deserves brief mention. "Postgraduate tours" of foreign medical centers and "postgraduate cruises" on chartered luxury liners have been used by some groups to combine a vacation with a limited amount of study. Besides the lectures given there is opportunity for considerable leisurely informal discussion between instructors and students. The large cost and the time factor involved in this type of activity limits its use.

7. Foubare, L. H.: A History of Extension or Correspondence Courses, Mil. Surgeon 100: 636-642 (Nov.) 1951.

8. Unpublished report, Committee on Research of the National University Extension Association, East Lansing, Mich., 1953.

COMMENT

Postgraduate courses of from about 40 to 80 hours total instructional time are likely to meet the needs of most physicians. The concentrated type is the most frequently used and preferred by physicians, especially by those located at some distance from teaching centers. The most desirable length of such courses is from one to two weeks. To meet the needs of physicians in cities in which medical centers are located, as well as for much extramural teaching in small centers, some intermittent courses are desirable. The best arrangement for these would be midweek sessions at weekly intervals over a period of several months. "Tailor-made" postgraduate courses to meet the needs of an individual physician can constitute a valuable adjunct only if given the same care and attention as regular courses.

Intramural courses make up the majority of postgraduate opportunities and are generally considered superior to the extramural type because of access to faculty, facilities, and clinical material. The majority of physicians in this country are within reasonable distance of one or more medical schools, and they are willing to travel the required distance for full-time concentrated courses. Extramural courses in large cities include large "congresses" and annual courses offered by national specialty societies as well as some hospital programs. Extramural courses in small centers are generally of the intermittent type, designed for rural general practitioners. Extension teaching via television and home study are other extramural forms less commonly used. Probably the most desirable use of extramural postgraduate work is in didactic sessions that bring new factual medical knowledge to the physician.

Although it might be desirable to have a large number of special facilities for postgraduate teaching, economic realities preclude the existence of more than a few fully developed postgraduate schools. In order for postgraduate medical education to develop soundly it would seem highly desirable that medical schools allocate appropriate space for this work and make provision for it in new building programs. Attention should be given to living accommodations within easy access of the school for physicians attending the courses. Outlying hospitals affiliated with central medical schools could augment the facilities for postgraduate medical education by becoming secondary teaching centers. No one type of postgraduate course—long or short, concentrated or intermittent, intramural or extramural—can meet all of the needs. Choices must be based on regional needs, objectives, content, and methods employed in each course. To do all that is necessary within a region it may be desirable for the various schools to divide responsibility, each concentrating on the type of courses it is best suited to conduct. Such a program calls for a high degree of cooperation but could potentially result in more efficient use of the resources of any given area.

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THE YIELD OF CHEST X-RAY SURVEYS

GUEST EDITORIAL

L. H. Garland, M.D.

Chest x-ray surveys are of two general types: those applied to the ambulatory population and those applied to persons admitted to general hospitals. There is now a considerable amount of information on the yield of such surveys, which it may be timely to review. General population surveys have been analyzed as to the yield of three principal conditions: pulmonary tuberculosis, pulmonary cancer, and heart disease. The primary purpose of tuberculosis surveys is the examination of persons without pulmonary symptoms in order to detect active silent disease, so that persons with tuberculosis may receive prompt treatment and be removed as a source of infection from the community. Surveys are not designed to examine persons with pulmonary symptoms or known pulmonary disease; therefore, the yield should be measured in terms of new active cases discovered. The most recently reported general population survey of adults in the United States is that of Scarcello,[1] in which he found 36 new (previously unknown) cases of active pulmonary tuberculosis per 100,000 adults examined. The yield of tuberculosis will of course be greater if the survey is confined to persons in the low income groups or to those living in overcrowded conditions. Many general population surveys have shown that the average yield of proved cases of bronchogenic cancer is 10 per 100,000 adults examined.[2] Some heart disease surveys have recorded the number of previously unknown cases of heart disease detected; these include enlarged hearts in elderly persons and other forms of degenerative cardiovascular disorder. The yield is approximately 57 per 100,000 persons examined.[3]

On the basis of early reports in which clinically insignificant as well as significant abnormalities were reported, the yield in hospital admission surveys promised to be much greater than in general population surveys. Recent studies by Siegal and co-workers [4] indicate that this hope has not been borne out in experience. These workers noted that, during a period of seven years, slightly over 1,076,506 persons had admission chest x-ray examinations in 71 general hospitals in the New York area. During the same time roentgenograms were made of a similar number, 1,069,715 persons, in general population and community surveys. The study showed that "active tuberculosis was diagnosed after follow-up examination in 1.7 cases for every 1,000 hospital patients x-rayed and 1.3 cases for every 1,000 persons x-rayed in mass surveys." In other words, only 30% more cases of active tuberculosis were diagnosed by the hospital admission surveys.

The fact that the yield in the Siegal study was 1.3 per 1,000 in the general population survey, while that of Scarcello was only 0.36 per 1,000 would appear to be due to three factors: 1. Siegal's study included previously known as well as new cases. 2. His population included more in the less favorable economic group. 3. His criteria for "active" were not identical with those of Scarcello. It is of interest to note that the work of Siegal is confirmed by reports from Wisconsin.[5] The yield of previously unknown cases of active pulmonary tuberculosis in mass surveys in Milwaukee between 1950 and 1954 was approximately 0.6 per 1,000. The yield of previously unknown cases of active tuberculosis in general hospital admission surveys in 1953 in Milwaukee was 0.8 per 1,000. In other words, the hospital admission figure was 30% more than the mass survey yield, a figure identical with that of Siegal. Data on neoplastic and cardiac lesions uncovered by hospital admission surveys are still in process of compilation.

The above facts seem to have escaped some of the ardent proponents of surveys, who seem to lean on figures that include cases of no apparent activity, cases previously known, and cases in which there are shadows of inconsequential origin, such as rib anomalies, small calcifications, pleural thickening, flattened diaphragm, scoliosis, and calcified aortic arch. Furthermore, many survey reports end with "estimates" as to the probable number of active cases that would have been discovered if all of the patients on whom roentgenograms were made had been followed up. This is not an argument against surveys; it is merely a plea for facts, so that perspective may not be distorted. The final, and perhaps most unsolved problem in this survey matter is the difficulty of persuading persons with abnormal shadows to accept treatment. In the Siegal study (which involved well over 2 million persons) only "about 31% of the active tuberculosis cases from the hospital program and 12% from the mass survey program had been hospitalized." In many other surveys, despite prolonged follow-up measures over 12 months' time, less than half of those detected as having evidence of disease returned for further diagnosis and treatment.[6]

1. Scarcello, N. S.: Worcester Chest X-Ray Survey, correspondence, J. A. M. A. **152**: 960 (July 4) 1953.
2. Scamman, C. L.: Follow-Up Study of Lung-Cancer Suspects in a Mass X-Ray Survey, New England J. Med. **244**: 541 (April) 1951.
3. Selzer, A.; Harrison, M. B., and Daniloff, G. T.: Detection of Unsuspected Heart Diseases in Photofluorographic Chest Surveys, Am. Heart J. **42**: 355 (Sept.) 1951.
4. Siegal, W.; Plunkett, R. E., and Locke, B. Z.: Case Findings from Routine Chest Roentgenograms: Mass Surveys of Communities Versus General Hospital Admissions, J. A. M. A. **157**: 435 (Jan. 29) 1955.
5. Melamed, A.: Quarterly Bulletin, Wisconsin State Board of Health (March) 1954. Melamed, A., and Fidler, A.: Routine Fluororoentgen Chest Examinations of Hospital Admissions from the Viewpoint of the Radiologist, Dis. Chest **18**: 346 (March) 1949.
6. Multiphasic Surveys: "Streamlined Diagnosis" for the Public, editorial, California Med. **81**: 240 (Sept.) 1954.

Thus it is evident that the yield in mass surveys is small. In the case of active pulmonary tuberculosis every infection detected and arrested means a diminution in spread to the rest of the public. However, the number of new active cases in which the patient accepts and follows definitive treatment is still small. In the case of bronchogenic carcinoma, the yield of curable cases is so low as to raise serious questions concerning the utility of the method. In the case of heart disease, it is generally conceded that x-ray surveys are not a useful tool; the conditions detected are seldom remediable.

The "side-effects" of surveys include the number of "false positives" detected. Many of these persons, reported as having abnormal shadows, are needlessly subjected to the psychic and economic trauma involved in identification of the shadow. An average figure for overreading is 2%; this means that about 2,000 per 100,000 persons will be recalled for further examination. This is no small task; it has been accepted to date in the belief that the communicability of open pulmonary tuberculosis was a graver problem. The era of efficient tuberculous antibiotics is now at hand: Should the question be reevaluated?

STRESS INCONTINENCE

According to Kegel [1] stress incontinence affects about 5.5% of all adult women. Although the patient is usually a multipara with a cystocele,[2] Nemir and Middleton [3] found some degree of stress incontinence in 52.4% of 1,327 otherwise healthy nulliparous young college women. Many women with mild degrees of urinary incontinence do not complain of this symptom or even mention it in the course of giving a gynecologic history, and unless a complaint is made the examining physician may make no special effort to detect evidence of it. This would account for the wide discrepancy in reported incidence. The types of stress that result in urinary leakage include coughing, sneezing, laughing, lifting heavy objects, and walking downhill. Laughing is apt to be most troublesome because it consists of a series of repeated stresses. These patients have no nocturnal enuresis, but they tend to avoid social contacts during the day because of the chance that laughter may be provoked and that wetting will lead to a noticeable odor. They also take special precautions to avoid catching a cold, which would aggravate the condition through sneezing or coughing.

The congenital type occurs when the innervation of the urinary sphincter mechanism is deficient or the urethral and vesical supports are imperfectly developed. The acquired type may occur as a result of injuries incurred during childbirth or during pelvic operations or may result, in women past the menopause, from atrophy of the bladder neck supports or deficient vascularity of the urethra.[4] In making the diagnosis it is important to rule out conditions that may simulate stress incontinence but that require different treatment.[5] In addition to a careful history and visualization with a speculum, a catheterized urine specimen should be examined for evidence of urinary gravel, cystitis, or bleeding tumors. Cystoscopy is essential, and the use of dye given intravenously or instilled into the bladder may help in discovering a high or obscure fistula. Intravenous urography is an aid in ruling out ectopic ureters. Measurement of the internal pressure and capacity of the bladder is an aid in discovering neurological causes. The most characteristic test consists of having the patient with a full bladder lie on her back with her knees drawn up and the urinary meatus exposed; the patient is asked to cough and if she has a stress incontinence a few drops or a small jet of urine is seen to escape. If then the examiner supports the urethra with a finger in the vagina and the patient coughs again and no urine escapes the patient usually can be cured by an operation. The patient should also be examined in a similar manner standing up, with one foot on the floor and the other on a chair or bed.

Many patients can be greatly improved or even cured, however, without operation, and such treatment should always be tried first. Moir [6] recommends alternate anal contraction and relaxation for about five minutes three times a day to strengthen and redevelop the pelvic floor. Mikuta and Payne [5] advocate as a supplementary exercise voluntary stopping and starting the flow of urine several times during each micturition. They combine these measures with administration of estrogens and local applications of 5% silver nitrate to the trigone if the patient has a chronic cystitis. Ullery [4] believes that failure of strengthening exercises to bring about definite improvement is likely to be due to failure to obtain the full cooperation of the patient. In any event if an operation becomes necessary the surgeon is faced with a choice of several procedures. The most controversial of these is the suburethral fascial transplant popularly known as the "sling operation." It is particularly indicated in patients with chronic stress associated with asthma or bronchitis, patients who must stand on their feet for long periods, and patients who must lift heavy objects. The disadvantages are that it is time consuming and involves a great deal of trauma. Because vaginal reconstruction is a much simpler operation and cures about 90% of the patients requiring operation it should be tried first, reserving the more complicated procedures for the few patients in whom it fails. Urethral advancement is indicated especially for patients whose incontinence is definitely due to obstetric injury. The choice of treatment will depend on the cooperation of the patient, the extent of the accompanying relaxation, and the results of previous treatment. Stress incontinence is probably more widespread than it is generally believed to be. The patients often accept the condition as a nuisance for which little can be done, but such a pessimistic attitude is not justified in the light of modern medical knowledge.

1. Kegel, A. H.: Physiologic Therapy for Urinary Stress Incontinence, J. A. M. A. 146: 915-917 (July 7) 1951.
2. FitzGibbon, H.: Stress Incontinence, Irish J. M. Sc. 6: 18-29 (Jan.) 1955.
3. Nemir, A., and Middleton, R. P.: Stress Incontinence in Young Nulliparous Women: Statistical Study, Am. J. Obst. & Gynec. 68: 1166-1168 (Oct.) 1954.
4. Ullery, J. C.: Collective Review: Stress Incontinence in the Female, Internat. Abstr. Surg. 98: 427-433, 1954, in Surg., Gynec. & Obst. (May) 1954.
5. Mikuta, J. J., and Payne, F. L.: Stress Urinary Incontinence in the Female: Review of the Modern Approach to This Problem, Am. J. M. Sc. 226: 674-687 (Dec.) 1953.
6. Moir, J. C.: Disturbances of Micturition in Women and Their Management, Practitioner 171: 492-499 (Nov.) 1953.

JOURNAL ARTICLES

It usually is readily apparent when something appears in a medical journal that displeases some of the readers. Letters appear in the mails, and the editor is turned, verbally speaking, over the correspondent's knee. Some time ago an editoral on migration of asthma sufferers to southern climates appeared in THE JOURNAL, and one reader promptly demanded from the Editor "details of yourself, training, practices, etc. Also allergy experience if any." It was obvious what the correspondent thought of the Editor. Another, after seeing an article in THE JOURNAL, belabored the Editor for not publishing it sooner. He embellished his letter by writing "Such a criticism applies to other phases of your policies."

Not infrequently, of course, editorials, original articles, and reports from the Association, or from elsewhere for that matter, elicit favorable as well as unfavorable comments. Some accuse the Editor in no uncertain terms for his lack of judgment in accepting something for publication, and others praise him for accepting the very same article. Comparatively few seem to appreciate that reports from the House of Delegates, Board of Trustees, or committees of the American Medical Association are not written by the Editor but are in a sense "official" reports from the Association, and their wording and time of appearance depend on the bodies preparing them.

Occasionally authors too show signs of irritation, and fret from the restraints caused by the establishment of certain publishing rules, believing, apparently, that freedom of the press means freedom to write as one wishes, regardless of grammar, slang, or abbreviation. There also sometimes is complaint about an article not appearing for some weeks or even several months after acceptance. Unfortunately for the author there are other papers waiting their turn for appearance in print.

Of course, except where honest difference of opinion arises, most of the misunderstanding arises from a lack of knowledge of editorial policies and publishing procedures. How is a scientific paper accepted? How is it processed? Who writes editorials—and why? What is the difference in policy between an original contribution and "official" reports? Why is anonymity apparent in some sections of THE JOURNAL? What are the costs of doing business in the publishing field? If the answers to these questions were always apparent, probably most misunderstanding, if not difference of opinion, would disappear.

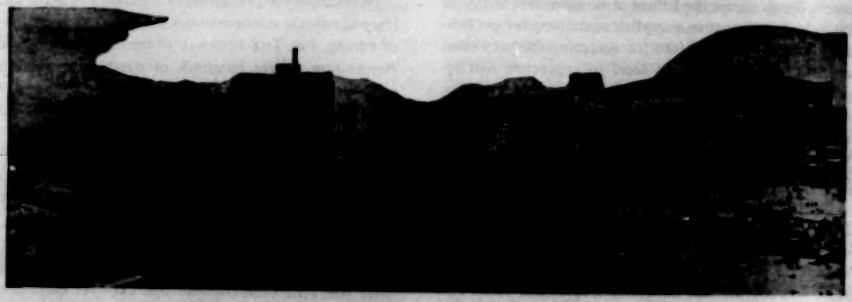
When a paper is submitted to the editorial office of THE JOURNAL it is reviewed by those at A. M. A. headquarters who have special knowledge in the field discussed in the paper. If there are none qualified to comment, the paper is submitted for appraisal to one or more persons outside of the headquarters. Obviously such referees must be chosen with care to prevent personal prejudice from interfering with scientific judgment. On the basis of the comments from the consultants, knowledge of what is awaiting publication and what already has appeared in the literature, and knowledge of the needs of THE JOURNAL (to a large extent determined by the demands of its readers), the Editor accepts, rejects, or suggests revision. Among the questions he asks himself when viewing each paper are these: Does the author offer new facts or principles of value? Does the author present well-devised or original experimental research? Is the paper the source of an outstanding review? Is the subject suited to THE JOURNAL or better suited to a more specialized journal? Does it present a timely reminder for THE JOURNAL readers? If the answer is yes to one or more of these questions and if the current needs of THE JOURNAL justify it, the paper usually is accepted. Unfortunately, far too many papers are offered to THE JOURNAL to permit acceptance of all the excellent presentations.

Next comes the processing of a paper. For some medical journals the editor assumes most of the responsibility of editing. For THE JOURNAL of the American Medical Association, where hundreds of papers are published each year and where there are thousands of other items to be considered, the Editor usually can only make suggestions for additions, deletions, and other general revisions, the actual editing being done by manuscript editors trained for this job. They edit for style but do not, or should not, attempt to rewrite the article. If the paper is so poorly composed that it needs rewriting, it should not be accepted for publication or at least it should be returned to the author for rewriting. Obviously there will arise differences of opinion over editing, but the editors are instructed to follow a certain style, a procedure that is common for periodicals with mass circulations, and to be particularly on the alert for unacceptable grammar, colloquialisms, and slang. Too often the author of a paper fails to realize that a paper that is read before a live audience may be well received because of the forceful delivery or personality of the orator and be a complete failure when reduced to type on an unemotional and unresponsive printed page.

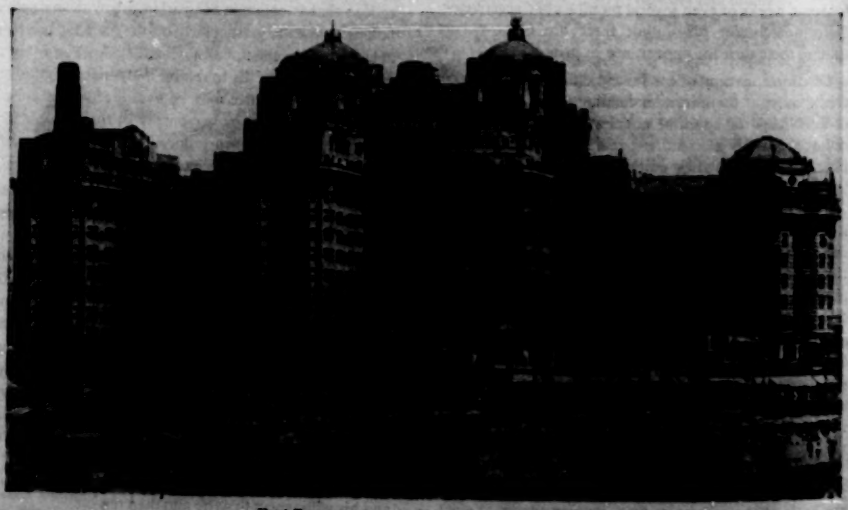
If space permitted many explanations could be made of the problems besetting a publishing house and its editorial boards. However, these will be apparent to those who pause a moment to reflect on the mass of reports available today and the costs of undertaking any enterprise that involves labor and supplies. While there are more papers prepared than there is available space in the more widely acclaimed journals, there is always room for the paper that truly offers a contribution. This is the kind any editor dislikes to lose. For the authors of such a paper, instructions, or guiding hints, are available for most medical periodicals. In fact, each medical journal usually carries on its cover or between the covers instructions for an author. The rest is up to him, his keenness of observation, and his willingness to write and then rewrite.

The beach and Boardwalk. The Traymore Hotel is in the immediate foreground. At the Convention Hall, with the rounded roof, there will be general registration, the technical exposition, and scientific exhibits.

Transportation on the Boardwalk.



The Auditorium (right) with Ritz-Carlton and Ambassador hotels and the President Hotel to the left.



Hotel Traymore, where the House of Delegates will meet.

THE ATLANTIC CITY MEETING

AMERICAN MEDICAL ASSOCIATION ONE HUNDRED FOURTH ANNUAL MEETING ATLANTIC CITY, N. J., JUNE 6-10, 1955

OFFICIAL CALL

To the Officers and Members of the American Medical Association

The 104th Annual Meeting of the American Medical Association will be held in Atlantic City, N. J., June 6-10, 1955.

The House of Delegates will convene at 10 a. m. Monday, June 6. In the House the representation of the various constituent associations for 1955 is as follows:

Alabama	2	New Hampshire	1
Arizona	1	New Jersey	6
Arkansas	2	New Mexico	1
California	13	New York	18
Colorado	2	North Carolina	3
Connecticut	3	North Dakota	1
Delaware	1	Ohio	8
District of Columbia	2	Oklahoma	2
Florida	3	Oregon	2
Georgia	3	Pennsylvania	11
Idaho	1	Rhode Island	1
Illinois	10	South Carolina	2
Indiana	4	South Dakota	1
Iowa	3	Tennessee	3
Kansas	2	Texas	7
Kentucky	2	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	2
Maryland	2	Washington	3
Massachusetts	6	West Virginia	2
Michigan	6	Wisconsin	4
Minnesota	4	Wyoming	1
Mississippi	2	Alaska	1
Missouri	4	Hawaii	1
Montana	1	Isthmian Canal Zone	1
Nebraska	2	Puerto Rico	1
Nevada	1		

The scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy, the Medical Corps of the Air Force, the Public Health Service, and the Veterans Administration are entitled to one delegate each.

The Scientific Assembly of the Association will open with the General Scientific Meetings to be held Monday, June 6, starting at 9 a. m. in the morning and at 2 p. m. in the afternoon. The Inaugural Meeting, at which the President will be installed, will be held on Tuesday evening, June 7. Sections of the Scientific Assembly will meet all day Tuesday, Wednesday, and Thursday, June 7, 8, and 9, and Friday morning, June 10, as follows:

CONVENING AT 9 A. M. THE SECTIONS ON	CONVENING AT 2 P. M. THE SECTIONS ON
Anesthesiology	Diseases of the Chest
Dermatology and Syphilology	Experimental Medicine and Therapeutics
Gastroenterology and Proctology	General Practice
Internal Medicine	Laryngology, Otology and Rhinology
Obstetrics and Gynecology	Military Medicine
Ophthalmology	Miscellaneous Topics: Session on Allergy and Session on Legal Medicine
Orthopedic Surgery	Nervous and Mental Diseases
Pathology and Physiology	Radiology
Pediatrics	Surgery, General and Abdominal
Physical Medicine and Rehabilitation	
Preventive and Industrial Medicine and Public Health	
Urology	

The Registration Bureau, which will be located in Convention Hall on the Boardwalk, will be open from 7:30 a. m. until 5:30 p. m. Monday, June 6, from 8:30 a. m. until 5:30 p. m., Tuesday, Wednesday, and Thursday, June 7, 8, and 9, and from 8:30 a. m. to 12 noon Friday, June 10.

WALTER B. MARTIN, President.
JAMES R. REULING, Speaker, House of Delegates.
GEORGE F. LULL, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete. Following is a list of the holdover members of the House of Delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA
J. Paul Jones, Camden
E. Bryce Robinson Jr., Fairfield

ARIZONA
Jesse D. Hamer, Phoenix

ARKANSAS
Rufus B. Robins, Camden
William R. Brooksher, Fort Smith

CALIFORNIA
Robertson Ward, San Francisco
Samuel J. McClendon, San Diego
Eugene F. Hoffman, Los Angeles
John Winston Green, Vallejo
Lewis A. Alesen, Los Angeles
Frank A. MacDonald, Sacramento
Paul D. Foster, Los Angeles
Leopold H. Fraser, Richmond
E. Vincent Askey, Los Angeles
Dwight L. Wilbur, San Francisco
Donald Cass, Los Angeles
J. Lafe Ludwig, Los Angeles
R. Stanley Kneeshaw, San Jose

COLORADO
George A. Unfug, Pueblo
Kenneth C. Sawyer, Denver

CONNECTICUT
Thomas J. Danaher, Torrington
John N. Gallivan, East Hartford
Stanley B. Weid, Hartford

DELAWARE
H. Thomas McGuire, New Castle

DISTRICT OF COLUMBIA
Hugh H. Hussey, Washington
Raymond T. Holden, Washington

FLORIDA
Louis M. Orr, Orlando
Reuben B. Chrisman Jr., Miami
Francis T. Holland, Tallahassee

GEORGIA
Charles H. Richardson Sr., Macon
Eustace A. Allen, Atlanta
Spencer A. Kirkland, Atlanta

IDAHO
Hoyt B. Woolley, Idaho Falls

ILLINOIS
H. Xenneth Scatliff, Chicago
Walter C. Bornemeier, Chicago
J. Mather Pfeiffenberger, Alton
Harlan English, Danville
Everett P. Coleman, Canton
Percy E. Hopkins, Chicago
Warren W. Furey, Chicago
C. Paul White, Kewanee
B. E. Montgomery, Harrisburg
Charles H. Phifer, Chicago

INDIANA
Alfred H. Ellison, South Bend
Wendell C. Stover, Boonville
Cleon A. Nafe, Indianapolis
Eli S. Jones, Hammond

IOWA
Donovan F. Ward, Dubuque
Robert N. Larimer, Sioux City
Francis C. Coleman, Des Moines

KANSAS
George F. Gsell, Wichita

KENTUCKY
Bruce Underwood, Louisville
Clark Bailey, Harlan

LOUISIANA
James Q. Graves, Monroe
Philip H. Jones, New Orleans

MAINE
Martyn A. Vickers, Bangor

MARYLAND
Howard M. Bubert, Baltimore
Warde B. Allan, Baltimore

MASSACHUSETTS
Harold R. Kurth, Lawrence
Earle M. Chapman, Boston
Norman A. Welch, Boston
Lawrence R. Dame, Greenfield
Philip S. Foisie, Boston
Charles G. Hayden, Boston

MICHIGAN
William A. Hyland, Grand Rapids
John S. DeTar, Milan
Ralph A. Johnson, Detroit
Wyman D. Barrett, Detroit
Willis H. Huron, Iron Mountain
Robert L. Novy, Detroit

MINNESOTA
Frank J. Elias, Duluth
Orwood J. Campbell, Minneapolis
George A. Earl, St. Paul
J. Arnold Bargen, Rochester

MISSISSIPPI
John P. Culpepper, Hattiesburg
John F. Lucas, Greenwood

MISSOURI
Joseph C. Peden Sr., St. Louis
Frank L. Feierabend, Kansas City

MONTANA
Raymond F. Peterson, Butte

NEBRASKA
Karl S. J. Hohlen, Lincoln
Joseph D. McCarthy, Omaha

NEVADA
Wesley W. Hall, Reno

NEW HAMPSHIRE
Deering G. Smith, Nashua

NEW JERSEY
Aldrich C. Crowe, Ocean City
William F. Costello, Dover
J. Wallace Hurff, Newark
L. Samuel Sica, Trenton
Elmer P. Weigel, Plainfield

NEW MEXICO
H. Linton January, Albuquerque

NEW YORK
J. Stanley Kenney, New York
John J. Masterson, Brooklyn
Maurice J. Dattelbaum, Brooklyn
Andrew A. Eggston, Mt. Vernon
R. J. Azzari, New York
Peter M. Murray, New York

Peter J. DiNatale, Batavia
Thomas M. D'Angelo, Jackson Heights
A. H. Aaron, Buffalo
Walter P. Anderton, New York
James R. Reuling, Bayside
Floyd S. Winslow, Rochester
Edward P. Flood, Bronx
Ezra A. Wolff, Forest Hills
Carlton E. Wertz, Buffalo
Thurman B. Givan, Brooklyn
Gerald D. Dorman, New York
Charles H. Loughran, Brooklyn

NORTH CAROLINA
Charles F. Stronnider, Goldsboro
B. O. Edwards, Asheville
Millard D. Hill, Raleigh

NORTH DAKOTA
Willard A. Wright, Williston

OHIO
Arthur A. Brindley, Toledo
L. Howard Schriver, Cincinnati
Clifford C. Sherburne, Columbus

OKLAHOMA
John F. Burton, Oklahoma City
James Stevenson, Tulsa

OREGON
William W. Baum, Salem
Raymond M. McKeown, Coos Bay

PENNSYLVANIA
William L. Estes Jr., Bethlehem
James L. Whitehill, Rochester
George S. Klump, Williamsport
Elmer G. Shelley, North East
James Z. Appel, Lancaster
William F. Brennan, Pittsburgh
G. C. Engel, Philadelphia
Harold B. Gardner, Harrisburg
Louis W. Jones, Wilkes-Barre
Charles L. Shafer, Kingston
Howard K. Petty, Harrisburg

RHODE ISLAND
Charles J. Ashworth, Providence

SOUTH CAROLINA
William Weston Jr., Columbia
George Dean Johnson, Spartanburg

SOUTH DAKOTA
Arthur A. Lampert, Rapid City

TENNESSEE
William C. Chaney, Memphis
Charles M. Hamilton, Nashville
Charles C. Smeltzer, Knoxville

TEXAS
Truman C. Terrell, Fort Worth
Milford O. Rouse, Dallas
Joseph B. Copeland, San Antonio
Arthur C. Scott, Temple
John K. Glen, Houston
Robert B. Homan Jr., El Paso
James H. Wooten Jr., Columbus

UTAH
George M. Fister, Ogden

VERMONT
James P. Hammond, Bennington

VIRGINIA
J. Morrison Hutcheson, Richmond
Vincent W. Archer, Charlottesville

WASHINGTON
David W. Gainer, Spokane
R. A. Benson, Bremerton
Raymond L. Zech, Seattle

WEST VIRGINIA
Frank J. Holroyd, Princeton
Walter E. Vest, Huntington

WISCONSIN
William D. Stovall, Madison
Stephen E. Gavin, Fond du Lac
Dexter H. Witte, Milwaukee
Joseph C. Griffith, Milwaukee

WYOMING
W. Andrew Bunten, Cheyenne

ALASKA
Milo H. Fritz, Anchorage

HAWAII
Homer M. Izumi, Honolulu

PUERTO RICO
P. Sánchez-Castaño, Bega Vaja

DELEGATES FROM THE SECTIONS AND GOVERNMENT SERVICES

ANESTHESIOLOGY
Rolland J. Whitacre, East Cleveland, Ohio

DERMATOLOGY AND SYPHILOLOGY
Robert R. Kierland, Rochester, Minn.

DISEASES OF THE CHEST
Hollis E. Johnson, Nashville, Tenn.

EXPERIMENTAL MEDICINE AND THERAPEUTICS
Robert D. Taylor, Marshfield, Wis.

GASTROENTEROLOGY AND PROCTOLOGY
Louis A. Buie, Rochester, Minn.

GENERAL PRACTICE
Lester D. Bibler, Indianapolis

INTERNAL MEDICINE
Charles T. Stone Sr., Galveston, Texas

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
Gordon F. Harkness, Davenport, Iowa

MILITARY MEDICINE
Russel V. Lee, Palo Alto, Calif.

NERVOUS AND MENTAL DISEASES
Hans H. Reese, Madison, Wis.

OBSTETRICS AND GYNECOLOGY
Ralph E. Campbell, Madison, Wis.

OPHTHALMOLOGY
William L. Benedict, Rochester, Minn.

ORTHOPEDIC SURGERY
Edward L. Compere, Chicago

PATHOLOGY AND PHYSIOLOGY
Lall G. Montgomery, Muncie, Ind.

PEDIATRICS
W. L. Crawford, Rockford, Ill.

PHYSICAL MEDICINE AND REHABILITATION
Frank H. Krusen, Rochester, Minn.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
R. T. Johnstone, Los Angeles

RADIOLOGY
Byrl R. Kirklin, Rochester, Minn.

SURGERY, GENERAL AND ABDOMINAL
Grover C. Penberthy, Detroit

UROLOGY
J. J. Crane, Los Angeles

UNITED STATES ARMY
Silas B. Hays

UNITED STATES NAVY
B. E. Bradley

UNITED STATES AIR FORCE
Otis O. Benson Jr.

PUBLIC HEALTH SERVICE
W. Palmer Dearing

VETERANS ADMINISTRATION
Roy A. Wolford

There will be present also two students representing the Student American Medical Association.

REFERENCE COMMITTEES OF THE HOUSE OF DELEGATES

The Speaker of the House of Delegates, Dr. James R. Reuling, New York, has appointed delegates to serve on the reference committees of the House at the Atlantic City Meeting, as follows:

Amendments to the Constitution and Bylaws
Cleon A. Nafe, *Chairman*, Indiana
James Q. Graves, Louisiana
Percy E. Hopkins, Illinois
William D. Stovall, Wisconsin
Bruce Underwood, Kentucky

Board of Trustees and Secretary, Reports of
Renato J. Azzari, *Chairman*, New York
Wyman D. Barrett, Michigan
J. P. Culpepper Jr., Mississippi
Homer M. Izumi, Hawaii
George S. Klump, Pennsylvania

Credentials
Harlan English, *Chairman*, Illinois
Thomas M. D'Angelo, New York
James P. Hammond, Vermont
Willis H. Huron, Michigan
Raymond F. Peterson, Montana

Executive Session
Hugh H. Hussey Jr., *Chairman*, District of Columbia
Edward L. Compere, Section on Orthopedic Surgery
William F. Costello, New Jersey
Jesse D. Hamer, Arizona
J. Paul Jones, Alabama

Hygiene, Public Health, and Industrial Health
J. Arnold Bargen, *Chairman*, Minnesota
Paul Baldwin, Missouri
Thomas J. Danaher, Connecticut
W. Palmer Dearing, U. S. Public Health Service
William Weston Jr., South Carolina

Insurance and Medical Service
James L. Whitehill, *Chairman*, Pennsylvania
John K. Glen, Texas
Eugene F. Hoffman, California
Frank J. Holroyd, West Virginia
Grover C. Penberthy, Section on Surgery, General and Abdominal

Legislation and Public Relations
Charles G. Hayden, *Chairman*, Massachusetts
Vincent W. Archer, Virginia
Arthur A. Brindley, Ohio
Floyd S. Winslow, New York
Raymond L. Zech, Washington

Medical Education and Hospitals
Dwight L. Wilbur, *Chairman*, California
John F. Burton, Oklahoma
George M. Fister, Utah
Silas B. Hays, U. S. Army
Milford O. Rouse, Texas

Medical Military Affairs

ANDREW EGGSTON, *Chairman*, New York
CHARLES M. HAMILTON, Tennessee
RAYMOND M. MCKEOWN, Oregon
CHARLES H. RICHARDSON SR., Georgia
GEORGE A. UNFUG, Colorado

Miscellaneous Business

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REUBEN B. CHRISMAN JR., Florida
EVERETT P. COLEMAN, Illinois
BYRL R. KIRKLIN, Section on Radiology
ROBERTSON WARD, California

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A. H. AARON, New York
WESLEY W. HALL, Nevada
J. LAFE LUDWIG, California
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BERTIE O. EDWARDS, North Carolina
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HAROLD R. KURTH, Massachusetts
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VICE SPEAKER, HOUSE OF DELEGATES—E. Vincent Askey, Los Angeles.

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COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION—O. Glasser, Cleveland, 1955; S. Warren, Boston, 1955; D. Vail, Chicago, 1955; F. R. Ober, Boston, 1956; D. M. Lierle, Iowa City, 1956; W. W. Coblentz, Washington, D. C., 1957; G. M. Piersol, Philadelphia, 1957; M. A. Bowie, Swarthmore, Pa., 1958; A. L. Watkins, Boston, 1958; W. J. Zeiler, Cleveland, 1958; F. H. Krusen, Chairman, Rochester, Minn., 1959; A. C. Cipollaro, New York, 1959; F. Butte, Dallas, Texas, 1959; R. E. DeForest, Secretary, Chicago.

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COUNCIL ON INDUSTRIAL HEALTH—L. E. Hamlin, Chicago, 1955; R. A. Kehoe, Cincinnati, 1955; W. P. Shepard, Chairman, New York, 1956; M. N. Newquist, New York, 1956; P. S. Richards, Salt Lake City, 1957; J. H. Sterner, Rochester, N. Y., 1957; R. T. Johnstone, Los Angeles, 1958; L. C. McGee, Wilmington, Del., 1958; C. F. Shook, Toledo, Ohio, 1958; J. N. Gallivan, East Hartford, Conn., 1959; V. C. Baird, Houston, Texas, 1959; O. A. Sander, Milwaukee, 1959; C. M. Peterson, Secretary, Chicago.

COUNCIL ON NATIONAL DEFENSE—A. A. Brindley, Toledo, Ohio, 1955; C. P. Hungate, Kansas City, Mo., 1955; S. L. Warren, Los Angeles, 1956; H. B. Wright, Cleveland, 1956; E. A. Benson, Bremerton, Wash., 1957; P. H. Long, Brooklyn, N. Y., 1957; R. L. Sensenich, South Bend, Ind., 1958; H. C. Lueth, Evanston, Ill., 1958; H. S. Diehl, Chairman, Minneapolis, 1959; R. L. Meiling, Columbus, Ohio, 1959; Mr. F. W. Barton, Secretary, Chicago.

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The Secretary, Assistant Secretary, and Editor are ex officio members of all standing committees

ATLANTIC CITY—1955

Atlantic City is situated by the ocean on a narrow strip of land extending seven miles out from the mainland. Water on every side and continuous ocean breezes make extreme temperatures impossible. There are no factories and almost never any fog, and so the sun's rays pass through an atmosphere unpolluted by smoke or dust. The climate is dry. With a permanent population of about 62,000, Atlantic City's natural and man-made facilities attract a visiting population of 16 million. There are 400 hotels with a total of 30,000 rooms, two municipal airports, the Pennsylvania-Reading-Seaport Railroad line, and the city can be reached by highways U. S. 9, 30, 40, and 322. The next Annual Meeting of the American Medical Association, which will be held in Atlantic City June 6-10, will be the 15th time that these meetings have been held there, thus showing the suitability of this resort city for such great assemblies.

The Atlantic City auditorium is the largest auditorium in the world, with a seating capacity of 41,000 persons and excellent arrangements for scientific and commercial exhibits and the various section meetings. Another attraction is the world-famous Boardwalk, which is 60 feet wide in its central portion. Brilliantly lighted with new mercury lamps, it runs for about six miles along the ocean front. The bathing beach, eight miles in length, is of fine white sand with a gentle slope. Several piers devoted to entertainment, dancing, motion pictures, and circuses extend into the ocean, and at the end of some of them boats are available for fishing in the sea.

Many of the restaurants and cafés are famous for their cuisine, and physicians who favor seafood will find here almost any kind that they desire. Nearby golf courses will be available to the visitors. There will be sightseeing trips, speedboat rides, and a 90 minute trip at sea, available at the Inlet Pier. The centennial meeting of the American Medical Association, which was held in Atlantic City in 1947, attracted the largest medical attendance that any convention has ever had, and present indications are that the 1955 meeting may be at least equal in attendance and scope.

TRANSPORTATION

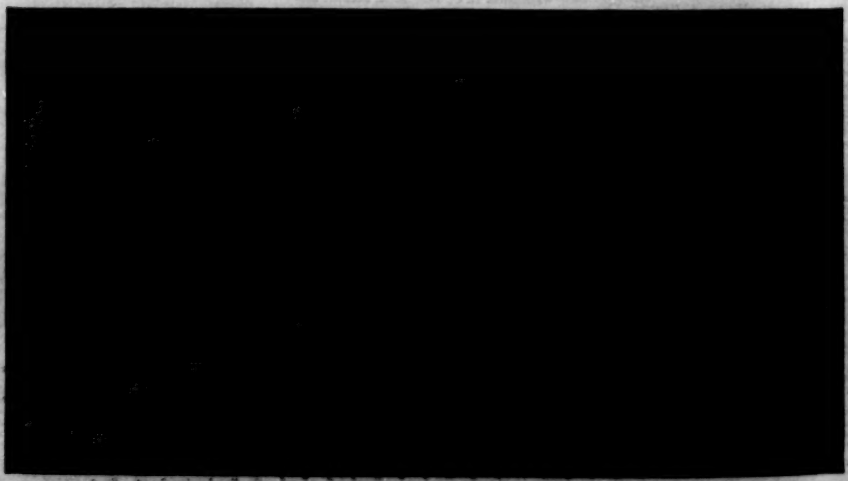
It is suggested that those physicians who contemplate traveling to Atlantic City to attend the Annual Meeting of the Association secure information concerning railroad and airplane travel directly from their local ticket agents, who are in a position to give them information regarding train or plane schedules and fares.

Atlantic City is readily accessible by all forms of transportation. The Pennsylvania Railroad has numerous connecting lines from New York City or North Philadelphia stations.

Most major airlines have flights to Philadelphia and New York. Connecting flights are available to Atlantic City, or transportation is available by limousine service. Direct flights are made into Atlantic City from Washington, D. C.

Special Tours

Interesting official Pre- and Post-Convention tours have been planned to Europe. These 30 day tours are arranged so that the American Medical Association Annual Meeting may be attended in Atlantic City either immediately on completion of the tour or prior to departing for Europe. Medical meetings are arranged in Paris, Zurich, and London. For full information, write A. M. A. Pre- and Post-Convention Tours, 5959 S. Cicero Avenue, Chicago, Ill.



Scene in the auditorium at the opening of the centennial meeting in 1947.

REGISTRATION

The Registration Bureau will be located at the entrance to Convention Hall on the Boardwalk and will be open all day Monday, Tuesday, Wednesday, and Thursday, June 6, 7, 8, and 9, and until noon on Friday, June 10.

An information bureau will be operated in connection with the Registration Bureau.

Who May Register

Members—Active, Affiliate, Associate, Service, and Honorary—and invited guests may take part in the work of the sections and may register for attendance at meetings.

Active members in good standing in the American Medical Association are those members of component county medical societies and of constituent state and territorial medical associations whose names are officially reported for enrollment to the Secretary of the American Medical Association by the secretaries of the constituent medical associations and who have paid their annual American Medical Association membership dues, which this year are $25, to be paid through their constituent medical associations.

Residents, interns, senior medical students, and registered nurses will find special registration cards to fill in on tables near the registration windows. These should be presented, at the window indicated, together with a card or letter signed by the superintendent of the hospital where they are registered, or the dean of the medical school they attend.

Register Early

The Registration Bureau will be open at 7:30 a. m., on Monday, June 6. Members are urged to take advantage of this early opening.

The names and Atlantic City addresses of those who register will be included in the *Daily Bulletin*, and this will enable visiting physicians to find friends who have registered.

Suggestions That Will Facilitate Registration

Members who have Advance Registration Cards with pocket cards can be registered with little or no delay. They should fill in the following information prior to registration:

Hotel, number of guests, signature, and also check one scientific section.

Present filled in card with your American Medical Association Membership pocket card at windows marked "Advance Registration." Your pocket card will be returned to you, and you will receive a badge and a copy of the Official Program.

Members without Advance Registration Cards will be given blank cards to fill out, and clerks will be on hand to direct them to the proper windows for registering. They will receive a badge and a copy of the Official Program.

Registration for General Officers and Delegates At the Hotel Traymore

General officers of the American Medical Association and members of the House of Delegates may register for the Scientific Assembly at the entrance to the American Room at the Hotel Traymore. This arrangement is made for the convenience of members of the House of Delegates, which will convene on Monday morning at 10 o'clock in the American Room of the Hotel Traymore. Delegates are requested to register for the Scientific Assembly before presenting credentials to the Reference Committee on Credentials of the House of Delegates. Registration of delegates for the Scientific Assembly will begin at 8 o'clock Monday morning, June 6, and delegates are urged to register early so that all members of the House of Delegates may be seated in time for the opening session of the House.

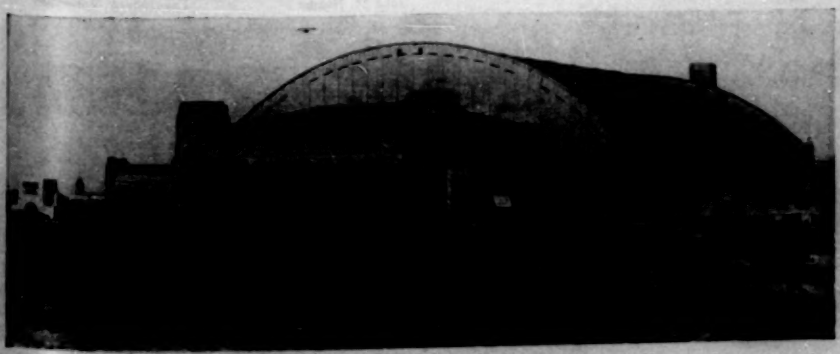
If any delegate or officer is in Atlantic City on Saturday or Sunday, June 4 or 5, he may register for the Scientific Assembly in the Secretary's office near the American Room at the Traymore.

Registration for Lay Executive Secretaries

Lay executive secretaries of component and constituent associations may register any time Saturday or Sunday, June 4 or 5, or any time *after 12 noon* Monday, June 6, during the week of the session in the Secretary's Office near the American Room at the Traymore.

FOR PHYSICIANS ONLY

On Wednesday, June 8, from 8:30 a. m., to 12 noon, Convention Hall will be open *exclusively* for physicians to visit the Scientific and Technical Exhibits, view the Television and Motion Picture Programs, and attend the Section meetings. *Only physicians* wearing a physician's badge will be admitted to Convention Hall on Wednesday morning.



The Convention Hall, where the Annual Meeting will be held.

MEETING PLACES

HOUSE OF DELEGATES: American Room, Hotel Traymore, Boardwalk at Illinois Avenue.

GENERAL SCIENTIFIC MEETINGS: Ballroom, Convention Hall.

INAUGURAL MEETING: Ballroom, Convention Hall.

MOTION PICTURES: Room B, Convention Hall.

TELEVISION: Stage, Convention Hall.

GENERAL HEADQUARTERS, REGISTRATION BUREAU, SCIENTIFIC EXHIBIT, TECHNICAL EXHIBITS AND INFORMATION BUREAU: Convention Hall.

SECTIONS OF SCIENTIFIC ASSEMBLY

ANESTHESIOLOGY: Venetian Room Ambassador Hotel, Boardwalk at Brighton Avenue (Wednesday and Friday); Ballroom, Convention Hall (Thursday).

DERMATOLOGY AND SYPHILOLOGY: Room C, Convention Hall.

DISEASES OF THE CHEST: Room C, Convention Hall (Wednesday and Thursday afternoons); Ballroom, Convention Hall (Thursday morning).

EXPERIMENTAL MEDICINE AND THERAPEUTICS: Ballroom, Convention Hall.

GASTROENTEROLOGY AND PROCTOLOGY: Trimble Hall, Hotel Claridge, Boardwalk between Indiana and Ohio Avenues.

GENERAL PRACTICE: Westminster Hall, Hotel Chelsea, Boardwalk between Morris and Brighton Avenues (Tuesday); Renaissance Room, Ambassador Hotel, Boardwalk at Brighton Avenue (Wednesday); Ballroom, Convention Hall (Thursday).

INTERNAL MEDICINE: Ballroom, Convention Hall.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Room D, Convention Hall.

MILITARY MEDICINE: Wedgewood Room, Hotel Chelsea, Boardwalk between Morris and Brighton Avenues (Tuesday and Wednesday); Trimble Hall, Hotel Claridge, Boardwalk between Indiana and Ohio Avenues (Thursday).

MISCELLANEOUS TOPICS, SESSION ON ALLERGY AND SESSION ON LEGAL MEDICINE: Room A, Convention Hall.

NERVOUS AND MENTAL DISEASES: Wedgewood Room, Hotel Marlborough-Blenheim, Boardwalk at Ohio Avenue.

OBSTETRICS AND GYNECOLOGY: Renaissance Room, Ambassador Hotel, Boardwalk at Brighton Avenue (Wednesday and Friday); Ballroom, Convention Hall (Thursday).

OPHTHALMOLOGY AND ASSOCIATION FOR RESEARCH IN OPHTHALMOLOGY: St. Dennis Room, Dennis Hotel, Boardwalk at Michigan Avenue.

ORTHOPEDIC SURGERY: Westminster Hall, Hotel Chelsea, Boardwalk between Morris and Brighton Avenues.

PATHOLOGY AND PHYSIOLOGY: Room D, Convention Hall (Tuesday and Wednesday); Trimble Hall, Hotel Claridge, Boardwalk between Indiana and Ohio Avenues (Thursday).

PEDIATRICS: Ballroom, Convention Hall (Tuesday and Thursday); Westminster Hall, Hotel Chelsea, Boardwalk between Morris and Brighton Avenues (Wednesday).

PHYSICAL MEDICINE AND REHABILITATION: Wedgewood Room, Hotel Chelsea, Boardwalk between Morris and Brighton Avenues.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH: Ballroom, Convention Hall (Tuesday); Room A, Convention Hall (Wednesday); Room D, Convention Hall (Thursday).

RADIOLOGY: Venetian Room, Ambassador Hotel, Boardwalk at Brighton Avenue (Tuesday and Wednesday); Room C, Convention Hall (Thursday).

SURGERY, GENERAL AND ABDOMINAL: Trimble Hall, Hotel Claridge, Boardwalk between Indiana and Ohio Avenues.

UROLOGY: Wedgewood Room, Hotel Marlborough-Blenheim, Boardwalk at Ohio Avenue.

Convention Hall is located on the Boardwalk between Mississippi and Georgia Avenues.

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PETER H. MARVEL, President, Medical Society of Atlantic County.

ELTON W. LANCE, Immediate Past President Medical Society of New Jersey.

LEWIS C. FRITTS, President-Elect, Medical Society of New Jersey.

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William W. Hersohn	Walter B. Stewart
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V. Earl Johnson	Baxter H. Timberlake
Herman Kline	Edward F. Uzzell
Anthony G. Merendino	Harvey Vandegrift
Matthew Molitch	Clarence B. Whims
John M. Naame	Lawrence A. Wilson

Panorama of the Boardwalk in Atlantic City. The Convention Hall

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Irving Braverman

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LAWRENCE A. WILSON, Chairman

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Victor A. Bressler — Clifford Murray
Royal Durham — Levi M. Walker

GASTROENTEROLOGY AND PROCTOLOGY

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H. David Holmes — Louis Rosenberg
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MATTHEW MOLITCH, Chairman

Amedeo A. Barbanti — Fred Erskine
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EDWARD F. UZZELL, Chairman

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Edward Dyer — Joseph L. McGahn
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R. D. Harley — Joseph R. Weintrob

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MILTON ACKERMAN, Chairman

Milton Cutler — William W. Hersohn
William Joy

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E. H. NICKMAN, Chairman

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Martin Green — Bernard Shuman
Samuel Southard

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HARVEY VANDEGRIFT, Chairman

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SAMUEL L. SALASIN, Chairman

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Samuel Halpern — Stanley L. Lucas

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David Bew — Herbert Fisher
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Daniel Wilner

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Richard Bew — Anthony G. Merendino
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UROLOGY

C. H. DET. SHIVERS, Chairman

Herbert Axilrod — John F. Perez
M. H. Axilrod — David B. Scanlan

is located at a convenient distance from most of the large hotels.

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R. T. DeHellebranth
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Perry Frank
H. P. Goodman
Martin Green
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J. J. Jacobson
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Wilson Rise

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Subcommittee on Alumni Reunions

WILLIAM W. HERSOHN, Chairman

Anthony G. Merendino
Harry Subin

Subcommittee on Television

V. EARL JOHNSON, Chairman

INAUGURAL MEETING

The Inaugural Meeting, at which the President will be installed, will be held in the Ballroom of Convention Hall, Tuesday evening, June 7. The ceremony will be broadcast nationally and will be telecast over local stations.

Highlights of the inauguration of Dr. Elmer Hess of Erie, Pa., as President of the American Medical Association will be broadcast nationwide on Tuesday evening, June 9. More details on time and station of the radio broadcast will be announced later in THE JOURNAL.

An added attraction will be an address by the celebrated Norman Vincent Peale, D.D., pastor of the Marble Collegiate Church of New York City. Dr. Peale will speak on "The Relationship of Religion and Medicine."

ENTERTAINMENT

President's Reception and Ball

The President of the Association will be honored after the Inaugural Meeting with a reception and ball, to be held in the American Room of the Hotel Traymore, Tuesday evening, June 7.

Annual Medical Golf Tournament

The American Medical Golfing Association will hold its 39th tournament June 6 at the Atlantic City Country Club, which is located about eight miles from the heart of Atlantic City. It is a championship layout, with watered greens and fairways, with a par of 72. There is also a nine-hole pitch and putt course with bent greens and sandtraps available for Fellows of the AMGA. Eighteen-hole competition will determine championships and will be the basis for the awarding of prizes. There will be ample locker and shower facilities and sufficient caddies.

Tournament play will start at 8:00 a. m., and players may tee off up to 2:00 p. m. Breakfast may be had at the club. Buffet luncheon, banquet, and green fees are included in the cost of

Golf is in season in June.

Fishing is available for those who like it.

the day's activities. The banquet will be served promptly at 7:00 p. m. and will be followed by the awarding of prizes. Those who would like to join in the good fellowship of this group are urged to make advance reservations. All male members of the American Medical Association are eligible to join, and if planning to attend this year's AMGA tournament may write to Bob Elwell, 3101 Collingwood Blvd., Toledo 10, Ohio, for notice and reservation card. Participants in the tournament are required to present their home club handicap, signed by the club secretary, or accept a handicap set by the AMGA handicap committee. No handicap over 30 is allowed. A member absent from the annual banquet forfeits his rights to a trophy or prize.

The Philadelphia committee that will handle the arrangements is headed by James McLaughlin, tournament chairman, and Lewis Manges Jr., prize chairman, assisted by the following doctors: Joseph Beideman, Warren Hoenstein, Barton Young, Lewis Wolff, Spurgeon English, and John Howson. The AMGA is under the direction of the following officers: F. O. Hendrickson, president, Philadelphia; Baxter N. Timberlake, president-elect, Atlantic City; Joseph E. Corr, first vice president, New York City; Paul S. Wyne, second vice president, San Francisco; and D. H. Houston, permanent chairman of advisory committee, Seattle.

Luncheons, Dinners, and Meetings of Fraternity, Alumni, and Other Organizations

Boston University School of Medicine Alumni Association, Dinner, Wednesday, June 8, 6:30 p. m., Mandarin Room, Haddon Hall. Tickets available from Boston University Medical Alumni Association.

Christian Medical Society, Dinner, Thursday, June 9, 7 p. m., Morton Hotel. Tickets available from C. M. S. office, 108 N. Dearborn St., Chicago 2.

College of Medical Evangelists Alumni Association, Dinner, Wednesday, June 8, 7 p. m., Madison Hotel.

College of Physicians and Surgeons Alumni Association (Columbia University) Dinner, Wednesday, June 8, 6:30 p. m., Chevy Chase Room of the Hotel Marlborough-Blenheim. Tickets available from Dr. R. B. Durham, 110 S. North Carolina Ave., Atlantic City, N. J.

Cornell University Medical College Alumni Association, Luncheon, Thursday, June 9, 1 p. m., Shelburne Hotel.

Duke University Medical Alumni Association, Dinner, Wednesday, June 8, 7 p. m., Belvedere Room, Hotel Traymore. Tickets available from Dr. T. L. Peele, Box 3811, Duke Hospital, Durham, N. C.

Federation of Catholic Physicians' Guilds, Luncheon, Wednesday, June 8, 12:30 p. m., Dennis Hotel. Tickets available from Central Office of Federation, 1438 S. Grand Blvd., St. Louis 4.

George Washington University Medical Society, Luncheon, Thursday, June 9, 12:15 p. m., West Room, Hotel Claridge.

Georgetown University Alumni Association, Luncheon, Tuesday, June 7, 12:30 p. m., Hotel Claridge. Tickets available from Alumni House, Georgetown University, Washington 7, D. C.

Harvard Medical Alumni Association, Dinner, Wednesday, June 8, 6:30 p. m., Dennis Hotel. Tickets available from Dr. Kenneth Thompson, 20 Main St., South Orange, N. J.

Jefferson Medical College Alumni Association, Buffet Supper, Wednesday, June 8, 7 p. m., Hotel Traymore. Tickets available from Alumni Office, 1025 Walnut St., Philadelphia 7.

Johns Hopkins Alumni Association, Dinner, Wednesday, June 8, 6 p. m., Dennis Hotel. Tickets available from university.

Loyola University Alumni Association, Dinner, Wednesday, June 8, 6 p. m., Shelburne Hotel. Tickets available from Loyola University Alumni Association, 820 N. Michigan Ave., Chicago.

Mayo Alumni Association, Luncheon, Wednesday, June 8, 12:30 p. m., Chalfonte-Haddon Hall. Tickets available from Dr. George F. Schmitt, 30 S.E. Eighth St., Miami 32, Fla.

McGill University Graduates' Society, Dinner, Wednesday, June 8. Time and place to be announced. Tickets available from Graduates' Society, % Dr. Lorne Gales.

Medical College of Virginia Alumni Association, Registration and Meeting, daily except Friday, June 6, 7, 8, and 9, 12-2 p. m. and 4:30 to 6:30 p. m., Hotel Marlborough-Blenheim.

Northwestern University Alumni Association, Medical Division, Luncheon, Thursday, June 9, 12:30 p. m., Mandarin Room, Haddon Hall. Tickets available from Medical Division, Northwestern University Alumni Association, 303 E. Chicago Ave., Chicago 11.

Phi Chi Medical Fraternity, Luncheon, Wednesday, June 8, 12 noon, Diamond Jim Brady Room, Shelburne Hotel.

Phi Delta Epsilon Fraternity, Open House, Wednesday, June 8, 9 p. m., Ambassador Hotel. No tickets necessary.

Phi Lambda Kappa Medical Fraternity, Dinner Dance, Thursday, June 9, 7 p. m., Round The World Room, President Hotel. Tickets available from Dr. I. Jerome Sobel, 136 Broadway, Passaic, N. J.

Just beach and ocean and the boardwalk and sunlight.

PHI RHO SIGMA MEDICAL FRATERNITY, Luncheon, Wednesday, June 8, 12:30 p. m., Hotel Claridge. Tickets available from Dr. John F. Wilson, 2013 Delancey Place, Philadelphia 3.

ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE ALUMNI ASSOCIATION, Dinner Dance, Wednesday, June 8, 6:30 p. m., Ambassador Hotel. Tickets available from St. Louis University School of Medicine Alumni Association, 1402 S. Grand Blvd., St. Louis 4.

TEMPLE UNIVERSITY MEDICAL ALUMNI ASSOCIATION, Luncheon, Wednesday, June 8, 12:30 p. m., Hotel Marlborough-Blenheim. Tickets available from E. M. Weinberger, 629 W. Cliveden St., Philadelphia.

TUFTS MEDICAL ALUMNI ASSOCIATION, Dinner, Wednesday, June 8, 6:30 p. m., Hotel Claridge.

UNIVERSITY OF ARKANSAS MEDICAL ALUMNI, Dinner, Wednesday, June 8, 6:30 p. m. Place to be announced.

UNIVERSITY OF CHICAGO AND RUSH MEDICAL COLLEGE, Dinner, Wednesday, June 8, 6:30 p. m., Hotel Claridge. Tickets available from the Medical Alumni Association of University of Chicago, 950 E. 59th St., Chicago 37.

UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE ALUMNI ASSOCIATION, Luncheon, Thursday, June 9, 12:30 p. m., Dennis Hotel. Tickets available from Alumni Office of the University, 42nd St. and Dewey Ave., Omaha.

UNIVERSITY OF PENNSYLVANIA MEDICAL ALUMNI SOCIETY, Dinner, Wednesday, June 8, 7 p. m., Haddon Hall. Tickets available from Miss Frances R. Houston, Alumni Office.

WOMAN'S MEDICAL COLLEGE ALUMNAE ASSOCIATION, Dinner, Wednesday, June 8, 6:30 p. m., Hotel Claridge. Tickets available from Alumnae Office, Woman's Medical College, 3300 Henry Ave., Philadelphia 29.

Tickets and information pertaining to alumni and fraternity functions will be available at the Alumni Registration area immediately inside the main entrance to Convention Hall.

WOMAN'S AUXILIARY

A cordial invitation is extended to all members of the Woman's Auxiliary to the American Medical Association, their guests, and the guests of physicians attending the Annual Meeting of the American Medical Association, to participate in all social functions and attend the general meetings of the Auxiliary.

Headquarters will be at the Haddon Hall Hotel. Tickets for the various social functions will be available at the registration desk only. Please register early and obtain your badge and program. The registration desk will be open on Sunday, June 5, from 12 noon until 4 p. m., on Monday, Tuesday, and Wednesday, June 6, 7, and 8, from 9 a. m. to 4 p. m., and on Thursday, June 9, from 9 a. m. until 12 noon.

Preconvention Schedule

SATURDAY, JUNE 4

COMMITTEE MEETINGS

1:00 p. m. Nominating Committee—Room 134, Mrs. Leo J. Schaefer, Chairman.

7:30 p. m. Finance Committee—Bakewell Room. Mrs. Jay G. Linn, Chairman.

SUNDAY, JUNE 5

12:00 noon to 4:00 p. m. Registration—English Lounge. Members of the Hospitality Committee will welcome members and guests of the Woman's Auxiliary.

COMMITTEE MEETINGS

10:00 a. m. Revisions Committee—Rowsley Room. Mrs. Arthur A. Herold, Chairman.

2:00 p. m. Resolutions Committee—Card Room. Mrs. Rollo K. Packard, Chairman.

4:30 p. m. Nominating Committee—Room 134. Mrs. Leo J. Schaefer, Chairman.

BOARD OF DIRECTORS MEETING AND LUNCHEON

12:00 noon Luncheon—Mandarin Room. Mrs. George Turner, President, presiding.

2:00 p. m. Meeting—Bakewell Room. Mrs. George Turner, President, presiding.

MONDAY, JUNE 6

ROUND TABLE DISCUSSIONS—MEMBERS INVITED

9:00 a. m. to 10:30 a. m. Legislation—Tower Room. Mrs. Charles L. Goodhand, Chairman.

10:30 a. m. to 12:00 noon Public Relations—Tower Room. Mrs. Richard M. Reynolds, Chairman.

11:00 a. m. to 12:00 noon Newsletters and Other Publications—Mandarin Room. Mrs. James P. Simonds, Chairman.

1:30 p. m. to 3:00 p. m. Today's Health—Tower Room. Mrs. Richard F. Stover, Chairman.

3:30 p. m. to 5:30 p. m. Tea—Rutland Room. Honoring Mrs. George Turner, President, and Mrs. Mason G. Lawson, President-Elect.

Invited Guests: Members of the National Board of Directors, National Committee Chairmen, State Presidents and Presidents-Elect, Wives of Officers and Trustees of the American Medical Association.

Hostesses: Woman's Auxiliaries to the Atlantic County Medical Society and the Medical Society of New Jersey.

All wives of physicians and guests are cordially invited.

8:30 p. m. Fashion show—Carolina Room, Chalfonte Hotel. All wives of physicians and guests are cordially invited.

Convention Program

TUESDAY, JUNE 7

9:00 a. m.

Formal opening of the 32nd Annual Convention of the Woman's Auxiliary to the American Medical Association, Vernon Room, Lounge Floor. Mrs. George Turner, President, presiding.

INVOCATION

PLEDGE OF LOYALTY

Mrs. Roscoe E. Mosiman, National Past President.

GREETINGS

Dr. Peter Marvel, President, Atlantic County Medical Society.

Dr. David B. Allman, Chairman, Local Committee on Arrangements, American Medical Association.

ADDRESS OF WELCOME

Mrs. Paul E. Rauschenbach, President, Woman's Auxiliary to the Medical Society of New Jersey.

RESPONSE

Mrs. Joseph H. McCracken Jr., President, Woman's Auxiliary to the Texas Medical Association.

PRESENTATION OF CONVENTION CHAIRMAN

Mrs. David B. Allman.

INTRODUCTIONS
Mrs. George Turner, President.

PRESENTATION OF PRESIDENT-ELECT
Mrs. Mason G. Lawson.

ROLL CALL
Mrs. Carl Burkland, Constitutional Secretary.

MINUTES OF THE 31ST ANNUAL CONVENTION
Mrs. Carl Burkland.

PRESENTATION OF PROGRAM

CONVENTION RULES OF ORDER
Mrs. David B. Allman.

ANNOUNCEMENT OF NATIONAL CONVENTION COMMITTEES
Mrs. George Turner, President.

IN MEMORIAM
Mrs. M. C. Wiginton, Immediate Past President, Woman's Auxiliary to the Louisiana State Medical Society.

ADDRESS OF THE PRESIDENT
Mrs. George Turner.

REPORTS OF OFFICERS
President-Elect, Mrs. Mason G. Lawson.
First Vice President, Mrs. Robert Flanders.
Second Vice President, Mrs. Harlan English.
Third Vice President, Mrs. A. M. Okelberry.
Fourth Vice President, Mrs. Clark Bailey.
Fifth Vice President, Mrs. Thomas M. d'Angelo.
Treasurer (and auditor's report), Mrs. George H Garrison.
Constitutional Secretary, Mrs. Carl Burkland.

PRESENTATION OF NATIONAL DIRECTORS

REPORT OF BOARD OF DIRECTORS
Mrs. George Turner.

12:30 p. m.
Luncheon in honor of the Past Presidents of the Woman's Auxiliary to the American Medical Association, Rutland Room. Mrs. George Turner, President, presiding.

2:30 p. m.

STATE REPORTS—NORTH CENTRAL REGION
Mrs. Harlan English, Second Vice President.

REPORTS OF CHAIRMEN OF STANDING COMMITTEES
Finance (and presentation of the Budget for 1955-1956), Mrs. Jay G. Linn.
Legislation, Mrs. Charles L. Goodhand.
Organization, Mrs. Robert Flanders.
Program, Mrs. George Cooperrider.

STATE REPORTS—WESTERN REGION
Mrs. A. M. Okelberry, Third Vice President.

REPORT OF NOMINATING COMMITTEE FOR 1955
(First Reading) Mrs. Leo J. Schaefer, Chairman.

PRESENTATION OF ELECTION COMMITTEE AND TELLERS

ELECTION OF THE 1956 NOMINATING COMMITTEE

7:00 p. m.
Inaugural meeting of the American Medical Association.

9:00 p. m., Ballroom, Convention Hall.
Reception and ball in honor of the President of the American Medical Association, American Room, Hotel Traymore.

WEDNESDAY, JUNE 8

9:00 a. m.
General Meeting of the Woman's Auxiliary to the American Medical Association, Vernon Room. Mrs. George Turner, President, presiding.

MINUTES
Mrs. Carl Burkland.

CONVENTION ANNOUNCEMENTS
Mrs. David B. Allman.

REPORT OF TELLERS—ELECTION OF THE 1956 NOMINATING COMMITTEE

STATE REPORTS—SOUTHERN REGION
Mrs. Clark Bailey, Fourth Vice President.

REPORTS OF CHAIRMEN OF STANDING COMMITTEES (continued)
Publications, Mrs. James P. Simonds.
Public Relations, Mrs. Richard M. Reynolds.
Revisions, Mrs. Arthur A. Herold.
Today's Health, Mrs. Richard F. Stover.
Presentation of Awards, Mr. Robert Enlow, Circulation Director, *Today's Health*.

REPORTS OF CHAIRMEN OF SPECIAL COMMITTEES
American Medical Education Foundation, Mrs. Frank Gastineau
Presentation of National Auxiliary Awards, Mr. Hiram Jones, Executive Secretary, A. M. E. F.
Bulletin Circulation, Mrs. E. A. Underwood.
Civil Defense, Mrs. William Mackersie.
Mental Health, Mrs. Ross P. Daniel.
Nurse Recruitment, Mrs. C. R. Pearson.
Reference, Mrs. Rollo K. Packard.

STATE REPORTS—EASTERN REGION
Mrs. Thomas M. d'Angelo, Fifth Vice President.

REPORT OF HISTORIAN
Mrs. Jesse D. Hamer.

REPORT OF CENTRAL OFFICE
Miss Margaret N. Wolfe, Executive Secretary.

12:15 p. m.
Luncheon in honor of Mrs. George Turner, President, and Mrs. Mason G. Lawson, President-Elect, Carolina Room, Hotel Chalfonte. Mrs. David W. Thomas, Past National President, presiding.
Guest Speaker: Dr. Walter B. Martin, President, American Medical Association.
Presentation of A. M. E. F. Awards: Dr. George F. Lull, Vice President, American Medical Education Foundation.

2:30 p. m.

ROUND TABLE DISCUSSIONS—GARDEN ROOM
Program—Mrs. George Cooperrider, Chairman.
Civil Defense—Mrs. William Mackersie, Chairman.
Mental Health—Mrs. Ross P. Daniel, Chairman.
Nurse Recruitment—Mrs. C. R. Pearson, Chairman.

THURSDAY, JUNE 9

9:00 a. m.
General meeting of the Woman's Auxiliary to the American Medical Association, Vernon Room. Mrs. George Turner, President, presiding.

NEW BUSINESS
Revisions to the Constitution and Bylaws: Mrs. Arthur A. Herold, Chairman.
Resolutions: Mrs. Rollo K. Packard, Chairman.
Convention Courtesy Resolution: Mrs. Andrew C. Ruoff, Chairman.

REPORT OF THE NOMINATING COMMITTEE
Mrs. Leo J. Schaefer, Chairman.

ELECTION OF OFFICERS

INSTALLATION OF OFFICERS
Mrs. Luther B. Kice, Past National President.

PRESENTATION OF PAST PRESIDENT'S PIN
Mrs. Frank N. Haggard, Past National President.

PRESENTATION OF PRESIDENT'S PIN AND GAVEL
Mrs. George Turner.

INAUGURAL ADDRESS
Mrs. Mason G. Lawson.

MINUTES

Mrs. Carl Burkland.

ADJOURNMENT

3:00 p. m.

Meeting of the Board of Directors, Bakewell Room. Mrs. Mason G. Lawson, President, presiding.

7:00 p. m.

Annual Dinner of the Woman's Auxiliary to the American Medical Association for members, husbands and guests, Vernon Room. Dress optional. Mrs. David B. Allman, Convention Chairman.

FRIDAY, JUNE 10

9:00 a. m.

Postconvention conference of National Officers, Directors, and Committee Chairmen with State Presidents and Presidents-Elect, Garden Room. Mrs. Mason G. Lawson, President, presiding.

National Convention Committees

NOMINATING: Mrs. Leo J. Schaefer, Chairman, Mrs. DeWitt Milam, Mrs. J. G. Linn, Mrs. C. L. Sheedy, Mrs. S. L. Bailey, Mrs. A. Paul Hancuff, Mrs. Arthur Bennett.

READING: Mrs. James P. Simonds, Chairman, Mrs. David B. Allman, Mrs. Carl Burkland, Miss Margaret N. Wolfe.

RESOLUTIONS: Mrs. Rollo K. Packard, Chairman, Mrs. Roscoe E. Mosiman, Mrs. Eustace A. Allen, Mrs. Luther H. Kice, Mrs. Ralph B. Eusden, Mrs. Harold E. Davis, Mrs. E. R. Millis.

CONVENTION COURTESY RESOLUTIONS: Mrs. Andrew C. Ruoff, Chairman, Mrs. Shelley C. Davis, Mrs. John Grow, Mrs. A. Paul Hancuff.

ELECTION: Mrs. Matthew N. Hosmer, Chairman, Mrs. John M. Chenault, Mrs. Roy Hewitt, Mrs. Willis A. Redding.

TELLERS: Mrs. Peter S. Rudie, Chairman, Mrs. W. W. Hubbard, Mrs. Lawrence Rapee, Mrs. M. F. Rigby.

TIMEKEEPERS: Mrs. Maynard M. Emlaw, Chairman, Mrs. Vernon Cantlon, Mrs. LeRoy Ford, Mrs. Paul H. Koren, Mrs. Albert Kwedar, Mrs. A. F. Milford.

PROGRAM OF THE SCIENTIFIC ASSEMBLY

GENERAL SCIENTIFIC MEETINGS

CONVENTION HALL, BALLROOM

Monday, June 6—9:30 a. m.

HENRY R. VIETS, Member of Council on Scientific Assembly, Presiding

Atomic Energy in Medicine

JOHN C. BUGHER, Director, Division of Biology and Medicine, United States Atomic Energy Commission, Washington, D. C., Moderator.

9:35 a. m. **Objectives of the United States Atomic Energy Commission Program for Peacetime Applications of Atomic Energy.**
LEWIS L. STRAUSS, Chairman, United States Atomic Energy Commission, Washington, D. C.

9:40 a. m. **Present Status of the Use of Radioisotopes and High Energy Accelerators in Experimental Medicine.**
JOHN H. LAWRENCE, Director, Donner Laboratory of Medical Physics, Berkeley, Calif., and GEORGE V. LEROY, Associate Dean, Division of Biological Sciences, University of Chicago, Chicago.
Discussion by JOHN C. BUGHER, Washington, D. C.

10:20 a. m. **Present Status of the Use of I^{131} and P^{32} in the Diagnosis of Disease.**
HYMER L. FRIEDELL, Director, Department of Radiology, Western Reserve University Hospital, Cleveland.

10:35 a. m. **Present Status of the Use of Atomic Energy Techniques in Neurosurgery.**
WILLIAM H. SWEET, Department of Surgery, Massachusetts General Hospital, Boston.
Discussion by JOHN C. BUGHER, Washington, D. C.

10:55 a. m. **Summary and Concluding Remarks.**
JOHN C. BUGHER, Washington, D. C.

Monday, June 6—11 a. m.

STANLEY P. REIMANN, Member of Council on Scientific Assembly, Presiding

Cancer and Medicine

11:00 a. m. **A Study of the Relationship Between Smoking and Death Rates: Preliminary Report of the Second Follow-Up.**
E. CUYLER HAMMOND, Director, and DANIEL HORN, Assistant Director, Statistical Research Section, Medical and Scientific Department, American Cancer Society, New York.

11:20 a. m. **The Physician's Interpretation of the Statistical Data on Smoking to His Patient.**
CHARLES S. CAMERON, Medical and Scientific Director and Vice President, American Cancer Society, New York.

11:40 a. m. **A Study of Environmental Factors in Cancer of the Larynx.**
ERNEST L. WYNDER, Section of Epidemiology and Division of Preventive Medicine, Sloan-Kettering Institute, Memorial Center for Cancer and Allied Diseases, New York.

12:05 p. m. **The Role of the General Practitioner in the Cancer Problem.**
RUSSELL S. BOLES, National Cancer Institute, Bethesda, Md.

Monday, June 6—2 p. m.

Diseases of the Upper Abdomen

DWIGHT L. WILBUR, Clinical Professor of Medicine, Stanford University School of Medicine, San Francisco, Moderator.

2:00 p. m. **Peptic Ulcer—Medical Aspects.**
WALTER L. PALMER, Professor of Medicine, University of Chicago, the School of Medicine, Chicago.

2:20 p. m. **Questions and answers.** Entire panel.

2:40 p. m. **Diseases of the Gallbladder and Bile Ducts—Surgical Aspects.**
WALTMAN WALTERS, Professor of Surgery, Mayo Foundation, Surgeon, Mayo Clinic, Rochester, Minn.

3:00 p. m. **Questions and answers.** Entire panel.

3:20 p. m. **Intermission.**

3:40 p. m. **Diseases of the Liver—Medical Aspects.**
DONALD F. MARION, Clinical Associate in Medicine, University of Miami School of Medicine, Coral Gables, Fla.

4:00 p. m. **Questions and answers.** Entire panel.

4:20 p. m. **Diseases of the Pancreas—Surgical Aspects.**
RALPH F. BOWERS, Chief of the Surgical Service, Veterans Administration Medical Teaching Group, Kennedy Hospital, Memphis, Tenn.

4:40 p. m. **Questions and answers.** Entire panel.

THE PROGRAMS OF THE SECTIONS

OUTLINE OF THE SCIENTIFIC PROCEEDINGS

The following papers are announced to be read before the various sections. The order here is not necessarily the order that will be followed in the Official Program. The Official Program will be similar to the programs issued in previous years and will contain the final program of each section with abstracts of the papers, as well as lists of committees, program of the Inaugural Meeting, list of entertainments and other information. To prevent misunderstandings and protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each physician on registration.

SECTION ON ANESTHESIOLOGY

MEETS IN AMBASSADOR HOTEL, VENETIAN ROOM

OFFICERS OF SECTION

Chairman—RALPH S. SAPPENFIELD, Miami, Fla.

Vice Chairman—LEE J. FITZPATRICK, West Englewood, N. J.

Secretary—JOHN S. LUNDY, Rochester, Minn.

Delegate—ROLLAND J. WHITACRE, Cleveland.

Representative to Scientific Exhibit—SCOTT M. SMITH, Salt Lake City.

Executive Committee—ROLLAND J. WHITACRE, Cleveland; MOSES KRAKOW, New York; DR. SAPPENFIELD; and DR. LUNDY.

Wednesday, June 8—9 a. m.

BUSINESS MEETING: PRESENTATION OF RESOLUTIONS; REPORT OF DELEGATE; INTRODUCTION OF EXHIBITORS

Fifty Years of Organized Anesthesia.

ALBERT M. BETCHER, BENJAMIN J. CILIBERTI, PAUL M. WOOD, and LEWIS H. WRIGHT, New York.

Discussion to be opened by SIDNEY C. WIGGIN, Boston, and THOMAS E. KEYS, Rochester, Minn.

Symposium on New Agents and Methods for Analgesia and Anesthesia

Controllable Analgesia During Surgery with Continuous Drip Meperidine: Analysis of 1,000 Cases.

H. M. AUSHERMAN, W. K. NOWILL, and C. R. STEPHEN, Durham, N. C.

Discussion to be opened by M. JACK FRUMIN, New York, and MELVIN S. KAPLAN, Boston.

The Use of Chlorpromazine in the Anesthetic Management of 2,000 Patients.

ELLIS K. HULTZMAN, Camden, N. J.

Discussion to be opened by BARNETT A. GREENE, and A. E. CHIRON, Brooklyn, N. Y.

Steroid Anesthesia: A Report on Its Use in Surgery.

FRANCIS J. MURPHY, NERI P. GUADAGNI, and FRANCIS L. DEBON, San Francisco.

Discussion to be opened by BERNARD R. FINK, New York, and ROBERT B. ORR, Boston.

The Use of Nisentil-Levallorphan Mixtures for the Supplementation of Nitrous Oxide-Oxygen Anesthesia.

FRANCIS F. FOLDES, MARK SWERDLOW, E. LIPSCHITZ, GERTRUDE WEBER, and LEO A. PIRE, Pittsburgh.

Discussion to be opened by CLARENCE L. HERBERT, Bethesda, Md., and HENRY I. LIPSON, Brooklyn, N. Y.

Management of Adrenocortical Insufficiency During Surgery.

CHARLES L. BURSTEIN, JAMES A. NICHOLAS, CHARLES J. UMBERGER, and PHILIP D. WILSON, New York.

Discussion to be opened by D. A. SCHOLZ, Rochester, Minn., and HRANT H. STONE, Philadelphia.

Thursday, June 9—9 a. m.

JOINT MEETING WITH SECTIONS ON DISEASES OF THE CHEST, GENERAL PRACTICE, OBSTETRICS AND GYNECOLOGY, AND PEDIATRICS IN CONVENTION HALL, BALLROOM

Panel Discussion on Resuscitation of the Newborn Infant

CLEMENT A. SMITH, Boston, Moderator.

The Importance of Asphyxia Neonatorum: A Statistical Analysis. SCHUYLER G. KOHL, Brooklyn, N. Y.

Prevention of Asphyxia Neonatorum by the Obstetrician.

NICHOLSON J. EASTMAN, Baltimore.

Prevention of Asphyxia Neonatorum by the Anesthesiologist.

MEYER SAKLAD, Providence, R. I.

The Value of Drugs, Oxygen, and Carbon Dioxide as Stimulants to Respiration in the Apneic Infant.

RALPH M. TOVELL, Hartford, Conn.

Morphology of the Newborn Infant's Lungs, as Related to Distensibility, Blood Supply, and Gas Exchange.

EDITH POTTER, Chicago.

Pressures and Volumes Involved in Expansion of the Newborn Infant's Lungs. RICHARD DAY, Brooklyn, N. Y.

The Role of the Laryngologist in Resuscitation of the Newborn.

PAUL H. HOLINGER, Chicago.

Methods of Resuscitating the Newborn Infant.

Practical discussion by all participants.

Friday, June 10—9 a. m.

ELECTION OF OFFICERS

The Influence of Anesthesia on Infant Mortality Rate in Cesarean Section. P. C. LUND, Johnstown, Pa.

Discussion to be opened by KENNETH F. EATHER, Fort Knox, Ky., and CARL E. WASMUTH, Cleveland.

The Twenty-Four Hour Medical Anesthesia Coverage for Obstetric Patients. JOHN J. BONICA, Tacoma, Wash.

Discussion to be opened by IRVING M. PALLIN, Brooklyn, N. Y., and ROBERT A. HINGSON JR., Cleveland.

Anesthesia for Patients Undergoing Operations on the Mitral Valve: Review of Four Years' Experience.

ROBERT T. PATRICK, Rochester, Minn.

Discussion to be opened by NICHOLAS M. GREENE, Rochester, N. Y., and F. H. ELLIS JR., Rochester, Minn.

Chairman's Address: Bellafoline in Clinical Anesthesia.

RALPH S. SAPPENFIELD, Miami, Fla.

A Study of the Mortality Rate in a Series of Cholecystectomies With and Without the Use of a Muscle Relaxant.

PAUL H. LORHAN and C. C. CHEN, Kansas City, Kan.

An Evaluation of Antiemetic Drugs and Their Effect on Postoperative Nausea, Vomiting, and Retching.

MARK R. KNAPP and HENRY K. BEECHER, Boston.

Discussion to be opened by MILTON J. MARMER, Beverly Hills, Calif., and ROBERT D. DRIPPS JR., Philadelphia.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN CONVENTION HALL, ROOM C

OFFICERS OF SECTION

Chairman—EVERETT C. FOX, Dallas.
Vice Chairman—HARRY M. ROBINSON SR., Baltimore.
Secretary—J. WALTER WILSON, Los Angeles.
Delegate—ROBERT R. KIERLAND, Rochester, Minn.
Representative to Scientific Exhibit—SAMUEL M. BLUEFARB, Chicago.
Executive Committee—JOHN H. LAMB, Oklahoma City; GEORGE M. LEWIS, New York; DR. FOX; DR. WILSON; and DR. KIERLAND.

Tuesday, June 7—9 a. m.

BUSINESS MEETING

Cutaneous Elasticity and Hyperelasticity.
FRANCIS A. ELLIS and WILLIAM R. BUNDICK, Baltimore.
Discussion to be opened by STURE A. M. JOHNSON, Madison, Wis.

Hemangiopericytoma.
HAROLD N. COLE JR., Shaker Heights, Ohio, and HERBERT Z. LUND, Greensboro, N. C.
Discussion to be opened by ARTHUR PURDY STOUT, New York.

Dermatologic Clinico-Pathologic Conference: Sponsored by the Pacific Dermatological Society, Under the Direction of Walter R. Nickel, San Diego, Calif.

HERMAN BEERMAN, Philadelphia, Moderator.

Contributors: LOUIS H. WINER, Beverly Hills, Calif.; VICTOR C. HACKNEY, Riverside, Calif.; JAMES W. BURKS, New Orleans; THOMAS B. FITZPATRICK, Portland, Ore.; and EDWARD P. CAWLEY, Charlottesville, Va.

The Treatment of Hemangioma, Chiefly by Radiation.
GEORGE E. PFAHLER, Philadelphia.
Discussion to be opened by GEORGE C. ANDREWS, New York.

A Study of Late Radiation Necrosis Following Roentgen Therapy for Cutaneous Cancer. HERBERT L. TRAENKLE, Buffalo.
Discussion to be opened by ROBERT STOLAR, Washington, D. C.

Wednesday, June 8—9 a. m.

BUSINESS MEETING

ELECTION OF OFFICERS

Chairman's Address: Physician's Responsibility to Medical Organizations. EVERETT C. FOX, Dallas, Texas.

Symposium on Lupus Erythematosus

LOUIS A. BRUNSTING, Rochester, Minn., Moderator.

Panelists: JOHN R. HASERICK, Cleveland; STANLEY L. LEE, New York; LOUIS A. BRUNSTING, J. MINOT STICKNEY, and GERTRUDE L. PEASE, Rochester, Minn.

Thursday, June 9—9 a. m.

Simplified Office Mycology.
HARRY M. ROBINSON JR., MORRIS M. COHEN, and RAYMOND C. V. ROBINSON, Baltimore.
Discussion to be opened by WILLIAM L. DOBES, Atlanta, Ga.

Experimental Investigations on the Mechanism Producing Acute Attacks of Fungous Infection of the Foot.
RUDOLF L. BAER, STANLEY A. ROSENTHAL, New York; JEROME Z. LITT, Cleveland; and HYMAN ROGACHEFSKY, New York; with the technical assistance of DOMENICA FURNARI, New York.
Discussion to be opened by J. LEWIS PIPKIN, San Antonio, Texas.

Puzzling, Persistent Penile Plaques.
MARION B. SULZBERGER, VICTOR H. WITTEN, New York, and JOHN A. HUNT, Newark, N. J.
Discussion to be opened by ARTHUR B. HYMAN, New York.

Allergic Dermatitis Produced by Inhalant Molds.
OTIS FIELD JILLSON and MANFRED ADAMI, Hanover, N. H.
Discussion to be opened by ADOLPH ROSTENBERG JR., Chicago.

Promacetin in the Treatment of Dermatitis Herpetiformis.
MAURICE J. COSTELLO and CONSTANCE MILLETTE BUNCKE, New York.
Discussion to be opened by FRED M. JACOB, Pittsburgh.

Zinc Oxide: A New Pink, Refractive, Microform Crystal.
BERNARD APPEL and LESLIE OHMART, Lynn, Mass., and ROBERT F. STERNER, Rahway, N. J.
Discussion to be opened by LEMUEL P. EREAUX, Montreal, Canada.

SECTION ON DISEASES OF THE CHEST

MEETS IN CONVENTION HALL, ROOM C

OFFICERS OF SECTION

Chairman—ANDREW L. BANYAI, Milwaukee.
Vice Chairman—EDWARD W. HAYES, Monrovia, Calif.
Secretary—JOHN F. BRIGGS, St. Paul.
Delegate—HOLLIS E. JOHNSON, Nashville, Tenn.
Representative to Scientific Exhibit—EDWIN R. LEVINE, Chicago.
Executive Committee—JOSEPH C. PLACAK SR., Cleveland; JAY A. MYERS, Minneapolis; DR. BANYAI; DR. BRIGGS; and DR. JOHNSON.

Wednesday, June 8—1:50 p. m.

BUSINESS MEETING

Chairman's Address.
ANDREW BANYAI, Muirdale Sanatorium, Milwaukee.

Panel Discussion on the Diagnosis and Treatment of Cardiac Arrhythmias

HANS H. HECHT, Salt Lake City, Moderator.

Participants: HERRMAN L. BLUMGART, Boston; MAURICE SOKOLOW, San Francisco; HARRY GOLD, New York; and A. SIDNEY HARRIS, New Orleans.

Thursday, June 9—9 a. m.

JOINT MEETING WITH SECTIONS ON ANESTHESIOLOGY, GENERAL PRACTICE, OBSTETRICS AND GYNECOLOGY, AND PEDIATRICS IN CONVENTION HALL, BALLROOM

Panel Discussion on Resuscitation of the Newborn Infant

CLEMENT A. SMITH, Boston, Moderator.

The Importance of Asphyxia Neonatorum: A Statistical Analysis. SCHUYLER G. KOHL, Brooklyn, N. Y.

Prevention of Asphyxia Neonatorum by the Obstetrician. NICHOLSON J. EASTMAN, Baltimore.

Prevention of Asphyxia Neonatorum by the Anesthesiologist. MEYER SAKLAD, Providence, R. I.

The Value of Drugs, Oxygen, and Carbon Dioxide as Stimulants to Respiration in the Apneic Infant. RALPH M. TOVELL, Hartford, Conn.

Morphology of the Newborn Infant's Lungs, as Related to Distensibility, Blood Supply, and Gas Exchange. EDITH POTTER, Chicago.

Pressures and Volumes Involved in Expansion of the Newborn Infant's Lungs. RICHARD DAY, Brooklyn, N. Y.

The Role of the Laryngologist in Resuscitation of the Newborn. PAUL H. HOLINGER, Chicago.

Methods of Resuscitating the Newborn Infant.
Practical discussion by all participants.

Thursday, June 9—2 p. m.

JOINT MEETING WITH SECTION ON RADIOLOGY IN CONVENTION HALL, ROOM C

Panel Discussion on Silent Lesions That Are Picked Up on Chest Surveys

J. RICHARDS AURELIUS, St. Paul, Moderator.

Internist. MARSH MCCALL, New York.

Roentgenologists.
C. ALLEN GOOD JR., Rochester, Minn., and CARL C. BIRKELO, Detroit.

Surgeons.
RICHARD H. OVERHOLT, Boston, and WILLIAM M. TUTTLE, Detroit.

Panel Discussion on Cardiovascular Diseases

FRED JENNER HODGES, Ann Arbor, Mich., Moderator.

Internist. RICHARD J. BING, Birmingham, Ala.

Roentgenologists.
ANDRE BRUWER, Rochester, Minn., and CHARLES T. DOTTER, Portland, Ore.

Surgeons.
DWIGHT EMARY HARKEN, Boston, and RICHARD L. VARCO, Minneapolis.

SECTION ON EXPERIMENTAL MEDICINE AND THERAPEUTICS

MEETS IN CONVENTION HALL, BALLROOM

OFFICERS OF SECTION

Chairman—HUGH R. BUTT, Rochester, Minn.
Vice Chairman—THOMAS P. FINDLEY JR., Augusta, Ga.
Secretary—GEORGE E. BURCH, New Orleans.
Delegate—EDGAR V. ALLEN, Rochester, Minn.
Representative to Scientific Exhibit—JOSEPH F. ROSS, Los Angeles.
Executive Committee—MAURICE H. SEEVERS, Ann Arbor, Mich.; IRVINE H. PAGE, Cleveland; DR. BUTT; DR. BURCH; and DR. ALLEN.

Tuesday, June 7—2 p. m.

Symposium on Electrocardiography and Vectorcardiography

The Present Status of Vectorcardiography.
OTTO H. SCHMITT and ERNST SIMONSON, Minneapolis.
Discussion to be opened by G. E. BURCH, New Orleans.

Vectorcardiography from the Point of View of Clinical Practice. FRANKLIN D. JOHNSTON, Ann Arbor, Mich.
Discussion to be opened by C. C. WOLFERTH, Philadelphia.

The Important Recent Advances in Electrocardiography.
ELLIOT V. NEWMAN, Nashville, Tenn.
Discussion to be opened by DANIEL A. BRODY, Memphis, Tenn.

The U Wave. EUGENE LEPESCHKIN, Burlington, Vt.
Discussion to be opened by BORYS SURAWICZ, Philadelphia.

The Electrocardiographic Changes in Electrolyte Imbalance. SAMUEL BELLET, Philadelphia.
Discussion to be opened by DAVID SCHERF, New York.

Wednesday, June 8—2 p. m.

BUSINESS MEETING

Minot Lecture: Clinical States Associated with Alterations of the Hemoglobin Molecule.
HARVEY A. ITANO, Bethesda, Md.

Symposium on Pancreatitis

Experimental Pancreatitis. MORTON I. GROSSMAN, Denver.
Discussion to be opened by JAMES L. A. ROTH, Philadelphia.

Clinical Syndrome of Acute and Chronic Pancreatitis.
HENRY L. BOCKUS, MARTIN M. KALSER, J. L. ROTH, A. BOGOCH, and GEORGE N. STEIN, Philadelphia.
Discussion to be opened by JAMES T. PRIESTLEY, Rochester, Minn.

Useful Diagnostic Laboratory Procedures in Pancreatitis.
THOMAS E. MACHELLA, Philadelphia.
Discussion to be opened by VINCE MOSELEY, Charleston, S. C.

The Medical Management of Pancreatitis.
CHARLES A. JONES, New Orleans.
Discussion to be opened by J. E. BERK, Detroit.

Thursday, June 9—2 p. m.

JOINT MEETING WITH SECTION ON INTERNAL MEDICINE IN CONVENTION HALL, BALLROOM

Symposium on Respiratory Diseases

Current Concept of Pulmonary Anatomy.
VERNON E. KRAHL, Baltimore.
Discussion to be opened by JULIUS L. WILSON, Philadelphia.

Some Fundamentals of Respiratory Physiology.
EDWIN R. LEVINE, Chicago.
Discussion to be opened by BURGESS L. GORDON, Philadelphia.

Current Methods of Diagnosis and Treatment of Emphysema.
R. DREW MILLER, Rochester, Minn.
Discussion to be opened by RICHARD V. EBERT, Little Rock, Ark.

Current Methods of Diagnosis and Treatment of Asthma.
WALTER S. BURRAGE, HERBERT C. MANSMANN JR., and JOHN W. IRWIN, Boston.
Discussion to be opened by JOHN M. SHELDON, Ann Arbor, Mich.

Current Concepts of Pulmonary Edema.
IVAN D. BARONOFSKY, Minneapolis.
Discussion to be opened by OSCAR SWINEFORD JR., Charlottesville, Va.

SECTION ON GASTROENTEROLOGY AND PROCTOLOGY

MEETS IN CLARIDGE HOTEL, TRIMBLE HALL

OFFICERS OF SECTION

Chairman—HARRY E. BACON, Philadelphia.
Vice Chairman—LOWELL D. SNORF, Evanston, Ill.
Secretary—EVERETT D. KIEFER, Boston.
Delegate—LOUIS A. BUIE, Rochester, Minn.
Representatives to Scientific Exhibit—WILLIAM H. DEARING, Rochester, Minn.; J. P. NESSELROD, Evanston, Ill.
Executive Committee—LOUIS E. MOON, Omaha; DONOVAN C. BROWNE, New Orleans; DR. BACON; DR. KIEFER; and DR. BUIE.

Tuesday, June 7—9 a. m.

Hiatus Hernia and Related Disorders of the Esophagogastric Junction.
E. CLINTON TEXTER JR., HUBBARD W. SMITH, and CLIFFORD J. BARBORKA, Chicago.

Regurgitant Esophagitis.
HERBERT W. SCHMIDT, Rochester, Minn.

Esophagitis, Hiatal Hernia, and Cardiospasm—Surgical Considerations. DAVID P. BOYD, Boston.
Discussion to be opened by N. C. HIGHTOWER, Temple, Texas; STANLEY H. LORBER, Philadelphia; EDWARD B. BENEDICT, Boston; and CONRAD R. LAM, Detroit.

Papillary Adenomas of the Colon and Rectum: A Clinical and Pathological Study.
NEIL W. SWINTON, WILLIAM A. MEISSNER, and WESLEY A. SOLAND, Boston.
Discussion to be opened by LOUIS E. MOON, Omaha, and WALTER A. FANSLER, Minneapolis.

Panel on Chronic Ulcerative Colitis

GARNET W. AULT, Washington, D. C., Moderator.

Participants: J. ARNOLD BARGEN, Rochester, Minn.; JOSEPH B. KIRSNER, Chicago; RICHARD H. MARSHAK, New York; WILLIAM A. MEISSNER, Boston; and ROBERT A. SCARBOROUGH, San Francisco.

Wednesday, June 8—9 a. m.

ELECTION OF OFFICERS

Control of Vomiting in the Postoperative Patient with Chlorpromazine.

C. R. STEPHEN, SARA J. DENT, L. W. FABIAN, and A. ADAN, Durham, N. C.

Discussion to be opened by JOHN H. MOYER, Houston, Texas.

Chairman's Address: Rectal Cancer with Reference to Survival Rate and Sphincter Preservation Employing the Abdominoperineal "Pull Through" Operation.

HARRY E. BACON, Philadelphia.

The Value of an "Optimally Effective Dose" of Anticholinergic Drugs in the Treatment of Peptic Ulcer.

DAVID C. H. SUN and HARRY SHAY, Philadelphia.

Discussion to be opened by HARRY BAROWSKY, New York.

Interpretation of the Intravenous Cholangiogram.

ROBERT E. WISE and RICHARD G. O'BRIEN, Boston.

Discussion to be opened by HERBERT M. STAUFFER, Philadelphia.

Panel on Diverticulitis of the Colon

FRANZ J. INGELFINGER, Boston, Moderator.

Participants: E. N. COLLINS, Cleveland; ARTHUR FINKELSTEIN, Philadelphia; HENRY K. RANSOM, Ann Arbor, Mich.; and CURTICE ROSSER, Dallas.

Thursday, June 9—9 a. m.

JOINT MEETING WITH SECTION ON PATHOLOGY AND PHYSIOLOGY IN CLARIDGE HOTEL, TRIMBLE HALL

Carcinoids of the Gastrointestinal Tract.

MERRILL O. HINES, New Orleans.

Discussion to be opened by R. B. TURNBULL JR., Cleveland, and CLARENCE DENNIS, Brooklyn, N. Y.

Clinical Observations on Hepatic Fibrosis.

CARROLL M. LEEVY, St. Albans, Long Island, N. Y.; ANGELO M. GNASSI and MARTIN W. POLLINI, Jersey City, N. J.

Tumors of the Liver in Infants and Children.

HUGH A. EDMONDSON, Los Angeles.

Discussion to be opened by DOROTHY H. ANDERSEN, New York; JAMES B. AREY and JOHN R. NEEFE, Philadelphia; and ARTHUR W. WRIGHT, Albany, N. Y.

Verrucae Accuminatae in the Anorectum (with Consideration of the Cancer Problem).

H. MARK YOUNG, Los Angeles.

Discussion to be opened by PETER A. HERBUT, Philadelphia; J. EDWIN ALFORD, Buffalo; and DAVID A. WOOD, San Francisco.

Clinical-Pathological Conference

JOHN R. SCHENKEN, Omaha, Moderator.

Participants: HENRY L. BOCKUS, Philadelphia; CALEB H. SMITH, Scott Air Force Base, Ill.; and STANLEY M. WYMAN, Boston.

SECTION ON GENERAL PRACTICE

MEETS IN HOTEL CHELSEA, WESTMINSTER ROOM
AMBASSADOR HOTEL, RENAISSANCE ROOM
CONVENTION HALL, BALLROOM

OFFICERS OF SECTION

Chairman—LOWRY H. MCDANIEL, Tyronza, Ark.
Vice Chairman—I. PHILLIPS FROHMAN, Washington, D. C.
Secretary—E. I. BAUMGARTNER, Oakland, Md.
Delegate—LESTER D. BIBLER, Indianapolis.
Representative to Scientific Exhibit—CHARLES E. MCARTHUR, Olympia, Wash.
Executive Committee—RICHARD A. MILLS, Fort Lauderdale, Fla.; FREDERIC S. EWENS, Manhattan Beach, Calif.; DR. MCDANIEL; DR. BAUMGARTNER; and DR. BIBLER.

Tuesday, June 7—2 p. m.

HOTEL CHELSEA, WESTMINSTER ROOM

BUSINESS MEETING; PRESENTATION OF RESOLUTIONS; REPORT OF DELEGATES; INTRODUCTION OF EXHIBITORS

A Medical School Department of General Practice.

ROBERT A. DAVISON, Memphis, Tenn.

Panel Conference and Symposium on Current Trends and Developments in Therapy, As They Apply to General Practice.

AUSTIN SMITH, Chicago, Moderator.

Participants: WALTER C. ALVAREZ, Chicago; WILLIAM DAMESHEK, Boston; PERRIN H. LONG and THOMAS H. MCGAVACK, New York; ROBERT T. PARKER, Baltimore; ADOLPH L. SAHS, Iowa City; ROBERT B. GREENBLATT, Augusta, Ga.; LEROY H. SLOAN, Chicago; and IRVING S. WRIGHT, New York.

Wednesday, June 8—2 p. m.

AMBASSADOR HOTEL, RENAISSANCE ROOM

ELECTION OF OFFICERS

Chairman's Address: Progress and Vision of Medicine in the 20th Century. LOWRY H. MCDANIEL, Tyronza, Ark.

Treatment of Essential Hypertension by Improved Adrenal Denervation. SHERMAN A. EGER, Philadelphia.

Photography of Tumors of the Uterine Canal in the Living. WILLIAM B. NORMENT, Greensboro, N. C.

Stellate Ganglion Block. DANIEL C. MOORE, Seattle.

Education of the Heart Patient. ROBERT J. NEEDLES, St. Petersburg, Fla.

Diagnosis and Treatment of Back Disabilities. GEORGE S. HACKETT, Canton, Ohio.

Terminal Care of the Patient with Inoperable Carcinoma. JOHN S. LADUE, New York.

A Nutritional Program for the Prolongation of Life in Coronary Atherosclerosis. LESTER M. MORRISON, Los Angeles.

Thursday, June 9—9 a. m.

JOINT MEETING WITH SECTIONS ON ANESTHESIOLOGY, DISEASES OF THE CHEST, OBSTETRICS AND GYNECOLOGY, AND PEDIATRICS IN CONVENTION HALL, BALLROOM

Panel Discussion on Resuscitation of the Newborn Infant

CLEMENT A. SMITH, Boston, Moderator.

The Importance of Asphyxia Neonatorum: A Statistical Analysis. SCHUYLER G. KOSEL, Brooklyn, N. Y.

Prevention of Asphyxia Neonatorum by the Obstetrician. NICHOLSON J. EASTMAN, Baltimore.

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The Value of Drugs, Oxygen, and Carbon Dioxide as Stimulants to Respiration in the Apneic Infant.
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Morphology of the Newborn Infant's Lungs, as Related to Distensibility, Blood Supply, and Gas Exchange.
EDITH POTTER, Chicago.

Pressures and Volumes Involved in Expansion of the Newborn Infant's Lungs. RICHARD DAY, Brooklyn, N. Y.

The Role of the Laryngologist in Resuscitation of the Newborn.
PAUL H. HOLINGER, Chicago.

Methods of Resuscitating the Newborn Infant.
Practical discussion by all participants.

SECTION ON INTERNAL MEDICINE

MEETS IN CONVENTION HALL, BALLROOM

OFFICERS OF SECTION

Chairman—HOWARD P. LEWIS, Portland, Ore.
Vice Chairman—BENJAMIN M. BAKER JR., Baltimore.
Secretary—A. CARLTON ERNSTENE, Cleveland.
Delegate—CHARLES T. STONE SR., Galveston, Texas.
Representative to Scientific Exhibit—JOHN S. LAWRENCE, Los Angeles.
Executive Committee—TRUMAN G. SCHNABEL, Philadelphia; HERRMAN L. BLUMGART, Boston; DR. LEWIS; DR. ERNSTENE; and DR. STONE.

Wednesday, June 8—9 a. m.

External Electric Stimulation of the Heart in Adams-Stokes Disease, Reflex Standstill, and Unexpected Circulatory Arrest.
PAUL M. ZOLL, ARTHUR J. LINENTHAL, LEONA R. NORMAN, MILTON H. PAUL, and WILLIAM GIBSON, Boston.
Discussion to be opened by HAROLD N. SEGALL, Montreal, Canada, and ALBERT H. DOUGLAS, Jamaica, N. Y.

Clinical Applications of Human Intramural Electrocardiography.
MYRON PRINZMETAL, RASHID A. MASSUMI, LOUIS RAKITA, ALFRED GOLDMAN, and LOIS SCHWARTZ, Los Angeles.
Discussion to be opened by TINSLEY R. HARRISON, Birmingham, Ala.

The Billings Lecture: The Price We Pay.
DAVID P. BARR, New York.

The Diagnosis and Modern Treatment of Cerebrovascular Diseases.
IRVING S. WRIGHT, ELLEN MCDEVITT, and WILLIAM T. FOLEY, New York.
Discussion to be opened by ROBERT G. SIEKERT, Rochester, Minn.

Panel Discussion on Treatment of the Common Forms of Arthritis

W. PAUL HOLBROOK, Tucson, Ariz., Moderator.

Participants: EDWARD W. BOLAND, Los Angeles; JOSEPH J. BUNIM, Bethesda, Md.; FRANK H. KRUSEN, Rochester, Minn.; and THOMAS MCP. BROWN, Washington, D. C.

Thursday, June 9—2 p. m.

JOINT MEETING WITH SECTION ON EXPERIMENTAL MEDICINE AND THERAPEUTICS IN CONVENTION HALL, BALLROOM

Symposium on Respiratory Diseases

Current Concept of Pulmonary Anatomy.
VERNON E. KRAHL, Baltimore.
Discussion to be opened by JULIUS L. WILSON, Philadelphia.

Some Fundamentals of Respiratory Physiology.
EDWIN R. LEVINE, Chicago.
Discussion to be opened by BURGESS L. GORDON, Philadelphia.

Current Methods of Diagnosis and Treatment of Emphysema.
R. DREW MILLER, Rochester, Minn.
Discussion to be opened by RICHARD V. EBERT, Little Rock, Ark.

Current Methods of Diagnosis and Treatment of Asthma.
WALTER S. BURRAGE, HERBERT C. MANSMANN JR., and JOHN W. IRWIN, Boston.
Discussion to be opened by JOHN M. SHELDON, Ann Arbor, Mich.

Current Concepts of Pulmonary Edema.
IVAN D. BARONOFSKY, Minneapolis.
Discussion to be opened by OSCAR SWINEFORD JR., Charlottesville, Va.

Friday, June 10—9 a. m.

ELECTION OF OFFICERS

The Clinical Aspects of Hyperinsulinism.
HAROLD D. BREIDAHL, JAMES T. PRIESTLEY, and EDWARD H. RYNEARSON, Rochester, Minn.
Discussion to be opened by FRANCIS D. W. LUKENS, Philadelphia.

A New Therapeutic Agent in Adult and Juvenile Myxedema: Di-Triiodothyronine (Di-TIT).
THOMAS F. FRAWLEY, RICHARD T. BEEBE, JOHN C. MCCLINTOCK, and JOHN LYONS, Albany, N. Y.
Discussion to be opened by THOMAS H. MCGAVACK, New York.

Anthrax: A Report of One Hundred and Fifteen Cases.
HERMAN GOLD and FRANK ROSENBERG, Chester, Pa.
Discussion to be opened by ELWOOD L. FOLTZ, Philadelphia.

Chairman's Address. HOWARD P. LEWIS, Portland, Ore.

Thrombophlebitis Migrans and Visceral Carcinoma.
ROBERT H. DURHAM, Detroit.
Discussion to be opened by J. EARL ESTES JR., Rochester, Minn., and WILLIAM T. FOLEY, New York.

Panel Discussion on Diagnosis and Treatment of the Hemolytic Anemias

CYRUS C. STURGIS, Ann Arbor, Mich., Moderator.

Participants: EUGENE L. LOZNER, Syracuse, N. Y.; EDWIN E. OSGOOD, Portland, Ore.; JOSEPH F. ROSS, Los Angeles; RUSSELL WEISMAN JR., Cleveland; and LAWRENCE E. YOUNG, Rochester, N. Y.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN CONVENTION HALL, ROOM D

OFFICERS OF SECTION

Chairman—FRANCIS W. DAVISON, Danville, Pa.
Vice Chairman—GUY L. BOYDEN, Portland, Ore.
Secretary—HUGH A. KUHN, Hammond, Ind.
Delegate—GORDON F. HARKNESS, Davenport, Iowa.
Representative to Scientific Exhibit—WALTER E. HECK, San Francisco.
Executive Committee—DEAN M. LIERLE, Iowa City; SAM H. SANDERS, Memphis, Tenn.; DR. DAVISON; DR. KUHN; and DR. HARKNESS.

Tuesday, June 7—2 p. m.

Introduction of the Honorary Chairman.
THOMAS C. GALLOWAY, Evanston, Ill.

New Technique for Corrective Surgery of the Nasal Septum.
IRVING B. GOLDMAN, New York.
Discussion to be opened by DEAN M. LIERLE, Iowa City, and SAM H. SANDERS, Memphis, Tenn.

Surgical Relief of Malignant or Progressive Exophthalmos.
GUY L. BOYDEN, Portland, Ore.

Nasopharyngeal Lymphoid Hyperplasia and Its Relation to Hearing Problems. RAYMOND E. JORDAN, Pittsburgh.
Discussion to be opened by PETER A. N. PASTORE, Richmond, Va.

Progress in Esophagology.
DANIEL C. BAKER JR. and CHARLES A. FLOOD, New York.
Discussion to be opened by WALTER H. MALONEY, Philadelphia.

The Trans-Septal-Sphenoid Pituitary Operation—A Motion Picture.
WALTER E. HECK and ROBERT C. MCNAUGHT, San Francisco.

Wednesday, June 8—2 p. m.

ELECTION OF OFFICERS

Current Concepts of Chronic Attic and Middle Ear Disease.
ARTHUR L. JUERS, Louisville, Ky.
Discussion to be opened by FRED HARBERT, Worton, Mass., and CHARLES E. KINNEY, Cleveland.

Chairman's Address: Medical Otolaryngology.
FRANCIS W. DAVISON, Danville, Pa.

The Treatment of Ménière's Disease.
HENRY L. WILLIAMS, Rochester, Minn.

Psychosomatic Aspects of Otolaryngology.
C. STEWART NASH, Rochester, N. Y.
Discussion to be opened by DAVID W. BREWER, Syracuse, N. Y.

Bronchography in the Diagnosis of Pediatric Problems.
CHARLES F. FERGUSON and CARLYLE G. FLAKE, Boston.
Discussion to be opened by CHARLES M. NORRIS, Philadelphia.

Thursday, June 9—2 p. m.

The Rational Approach to Immunization of the Upper Respiratory Tract. THEODORE E. WALSH, St. Louis.
Discussion to be opened by HARRY P. SCHENCK, Philadelphia.

Allergic Disease of the Upper Respiratory Tract.
KENNETH L. CRAFT, Indianapolis.
Discussion to be opened by RUSSELL C. GROVE, New York, and HERBERT P. HARKINS, Philadelphia.

Hypothyroidism as a Cause of Headache.
A. CURTIS JONES JR., Boise, Idaho.

FIVE MINUTE INTERMISSION

Thursday, June 9—3:30 p. m.

JOINT SESSION WITH THE SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH IN CONVENTION HALL, ROOM D

It Can Happen to You.

A Mock Trial Presented by the Subcommittee on Noise in Industry of the Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology.

HOWARD P. HOUSE, Los Angeles, Moderator.

SECTION ON MILITARY MEDICINE

MEETS IN HOTEL CHELSEA, WEDGEWOOD ROOM

OFFICERS OF SECTION

Chairman—I. S. RAVDIN, Philadelphia.
Vice Chairman—H. LAMONT PUGH, Washington, D. C.
Secretary—CHARLES L. LEEDHAM, Washington, D. C.
Delegate—RUSSEL V. LEE, Palo Alto, Calif.
Representative to Scientific Exhibit—ALLEN D. SMITH, Washington, D. C.
Executive Committee—RICHARD A. KERN, Philadelphia; HARRY G. ARMSTRONG, Washington, D. C.; DR. RAVDIN; DR. LEEDHAM; and DR. LEE.

Tuesday, June 7—2 p. m.

Chairman's Address: The Civilian Doctor and Our Future Security. I. S. RAVDIN, Philadelphia.

Uremia-like Symptoms, Not Due to Uremia, in Battle Casualties.
W. H. MERONEY, Washington, D. C.
Discussion to be opened by A. C. CORCORAN, Cleveland, and PAUL D. DOOLAN, Oakland, Calif.

Acute Coronary Insufficiency: Application to Military Medicine.
ARTHUR M. MASTER, HARRY L. JAFFE, and LEONARD E. FIELD, New York.
Discussion to be opened by CHARLES K. FRIEDBERG, New York, and ARCHIE HOFFMAN, Washington, D. C.

Handicaps, Motivation, and the Performance of Duty.
LUCIO E. GATTO, Geneva, N. Y.
Discussion to be opened by ARTHUR S. ABRAMSON, Bronx, N. Y., and RICHARD R. CAMERON, Fort Dix, N. J.

Acute Infectious Hepatitis in the Armed Forces: The Advantages of Ad Lib Bed Rest and Early Reconditioning.
THOMAS C. CHALMERS JR., Washington, D. C.; WILLIAM E. REYNOLDS, Boston; RICHARD D. ECKHARDT, Iowa City; JOAQUIN G. CIGERROA, Laredo, Texas; NORMAN DEANE, New York; ROBERT W. REIFENSTEIN, Syracuse, N. Y.; CLIFFORD W. SMITH, Hines, Ill.; and CHARLES S. DAVIDSON, Boston.
Discussion to be opened by W. PAUL HAVENS JR. and LESTER J. POPE, Philadelphia.

Peptic Ulcer: A Major Problem in Military Medicine.
JOHN H. WILLARD, Philadelphia.
Discussion to be opened by JOSEPH M. HAYMAN JR., Boston, and BENJAMIN H. SULLIVAN JR., San Francisco.

Wednesday, June 8—2 p. m.

ELECTION OF OFFICERS

Crash and Live: Need Cars Kill More Soldiers Than Guns?
DON S. WENGER, Washington, D. C.
Discussion to be opened by R. ARNOLD GRISWOLD, Louisville, Ky., and GEORGE F. PEER, El Paso, Texas.

Response of Human Beings Accidentally Exposed to Significant Fallout Radiation. ROBERT A. CONARD JR., Bethesda, Md.
Discussion to be opened by LEE E. FARR, Upton, N. Y.; CARL L. HANSEN JR., Washington, D. C.; E. P. CRONKITE and V. P. BOND, Upton, N. Y.; and N. R. SHULMAN, Bethesda, Md.

The Care and Evacuation of Vietnamese Refugees.
J. M. AMBERSON, Bethesda, Md.
Discussion to be opened by DAN C. OGLE, Washington, D. C.

Breaking the Sound Barrier and Its Effect on the Public.
JOHN M. TALBOT, Baltimore, Md.
Discussion to be opened by ARAM GLORIG, Los Angeles, and SIDNEY I. BRODY, Washington, D. C.

Report of the Office of the Assistant Secretary of Defense.
FRANK B. BERRY, Washington, D. C.

Thursday, June 9—2 p. m.

JOINT MEETING WITH THE SECTION ON SURGERY, GENERAL AND ABDOMINAL IN CLARIDGE HOTEL, TRIMBLE HALL

Concepts of the Provision and Use of Whole Blood in Military and Civilian Defense Emergency.
WILLIAM H. CROSBY JR. and JOSEPH H. AKEROYD, Washington, D. C.
Discussion to be opened by JOHN G. GIBSON II, Boston, and MARY SPROUL, Washington, D. C.

Management of Injuries to the Thorax.
BRIAN BLADES, Washington, D. C.
Discussion to be opened by EDWARD M. KENT, Pittsburgh, and LAWRENCE M. SHEFTS, San Antonio, Texas.

Psychological Reactions in Mass Casualties.
E. L. CAVENY, Birmingham, Ala.
Discussion to be opened by CALVIN DRAYER, Philadelphia, and ALBERT J. GLASS, Washington, D. C.

The Primary Care of Injuries About the Face.
TRUMAN G. BLOCKER JR., Galveston, Texas.
Discussion to be opened by HERBERT CONWAY, New York, and PAUL W. GREELEY, Chicago.

Basic Principles in the Management of Open Fractures.
OSCAR P. HAMPTON JR., St. Louis.
Discussion to be opened by WILLIAM H. CASSEBAUM, New York, and THOMAS L. WARING, Memphis, Tenn.

Modern Concepts in the Treatment of Burns.
CURTIS P. ARTZ, Fort Sam Houston, Texas.
Discussion to be opened by HENRY P. ROYSTER, Philadelphia, and OAKLEY PARK, Chanute Field, Ill.

SECTION ON MISCELLANEOUS TOPICS

SESSION ON LEGAL MEDICINE

MEETS IN CONVENTION HALL, ROOM A

OFFICERS OF SESSION

Chairman—LOUIS J. REGAN, Los Angeles.
Secretary—RICHARD FORD, Boston.

Wednesday, June 8—2 p. m.

The Mentally Ill Patient, Competence to (a) Consent to Treatment, (b) Contract, (c) Testify, and (d) Make a Valid Will.
FRANCIS J. GERTY, Chicago.

Trauma and Cancer. W. C. HUEPER, Bethesda, Md.

The Federal Income Tax Law in Relation to Medical Practice.
CHRISTIAN M. LAURITZEN, II, Chicago.

The Model Post-Mortem Examinations Act.
C. JOSEPH STETLER, Chicago.

Human Experimentation, Medicolegal Aspects.
IRVING LADIMER, New York.

Chinese Immigration and Blood Tests.
SIDNEY B. SCHATKIN, New York.

SESSION ON ALLERGY

MEETS IN CONVENTION HALL, ROOM A

OFFICERS OF SESSION

Co-Chairmen—JOHN M. SHELDON, Ann Arbor, Mich., and HOMER E. PRINCE, Houston, Texas.
Secretary—FRANCIS C. LOWELL, Boston.

Thursday, June 9—2 p. m.

The Problem of Eczema (Allergic Dermatitis).
RALPH BOOKMAN and GEORGE PINESS, Los Angeles.

Allergy and Penicillin. ORVAL R. WITHERS, Kansas City, Mo.

The Asthmagram: Cases Illustrating Its Use.
OSCAR SWINEFORD JR., K. W. BERGER, J. W. CUMBIA, and W. P. COLEMAN, Charlottesville, Va.

Panel Discussion on the Management of Bronchial Asthma

FRANCIS C. LOWELL, Boston, Moderator.

Participants: HOMER E. PRINCE, Houston, Texas; JOHN M. SHELDON, Ann Arbor, Mich.; CARL E. ARBESMAN, Buffalo; and VINCENT J. DERBES, New Orleans.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN MARLBOROUGH-BLENHEIM HOTEL, WEDGEWOOD ROOM

OFFICERS OF SECTION

Chairman—FRANCIS J. BRACELAND, Hartford, Conn.
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Delegate—HANS H. REESE, Madison, Wis.
Representative to Scientific Exhibit—G. WILSE ROBINSON, Kansas City, Mo.
Executive Committee—FRANCIS M. FORSTER, Washington, D. C.; A. EARL WALKER, Baltimore; DR. BRACELAND; DR. VON HAGEN; and DR. REESE.

Tuesday, June 7—2 p. m.

Auriculo Temporal Syndrome.
W. JAMES GARDNER and JAMES W. MCCUBBIN, Cleveland.
Discussion to be opened by E. S. GURDJIAN, Detroit, and FRANCIS C. GRANT, Philadelphia.

The Control of Tic Douloureux by Injecting the Gasserian Ganglion with Boiling Water.
RUDOLPH JAEGER, Philadelphia.
Discussion to be opened by BRONSON S. RAY, New York, and WILLIAM H. SWEET, Boston.

The Decompression Operation for Trigeminal Neuralgia.
ROBERT DEAN WOOLSEY, St. Louis.
Discussion to be opened by TEMPLE FAY, Philadelphia, and J. GRAFTON LOVE, Rochester, Minn.

Lower Extremity Pain Simulating Sciatica Caused by Tumors of the High Thoracic and Cervical Cord.
MICHAEL SCOTT, Philadelphia.
Discussion to be opened by A. EARL WALKER, Baltimore, and I. S. WECHSLER, New York.

The Result of Temporal Lobectomy for the Treatment of Psychomotor Epilepsy.
ARTHUR A. MORRIS, Washington, D. C.
Discussion to be opened by WILLIAM B. SCOVILLE, Hartford, Conn.

Prefrontal Procaine Injection: A Study of Fourteen Patients with One Year Follow-Up.
J. MARTIN MYERS, PER-OLAF THERMAN, CALVIN S. DRAYER, MANUEL M. PEARSON, FRANCIS C. GRANT, LAUREN SMITH, Philadelphia; and FRANCIS E. NULSEN, Cleveland.
Discussion to be opened by F. A. FREYHAN, Farnhurst, Del.; JAMES P. CATTELL and JOHN E. SCARFF, New York.

Wednesday, June 8—2 p. m.

ELECTION OF OFFICERS

Chairman's Address. FRANCIS J. BRACELAND, Hartford, Conn.

The Practice of Psychiatry Around the World.
JAMES L. MCCARTNEY, Garden City, N. Y.
Discussion to be opened by C. N. BAGANZ, Lyons, N. J., and ROBERT S. BOOKHAMMER, Norristown, Pa.

The General Practitioner and the Discharged Mental Patient.
KENNETH E. APPEL and ALBERT E. SCHEFLEN, Philadelphia.
Discussion to be opened by DAVID J. FLICKER, Newark, N. J., and JOSEPH RAY GUYTHER, Mechanicsville, Md.

What Causes Alcoholism. FREDERICK LEMERE, Seattle.
Discussion to be opened by JOSEPH THIMANN and WALTER E. BARTON, Boston, and HAROLD W. LOVELL, New York.

The Use of Chlorpromazine and Reserpine in the Treatment of Emotional Disorders.
WILLIAM W. ZELLER, PAUL N. GRAYAGNINO, CHESTER F. CULLEN, and H. JEROME REITMAN, Hartford, Conn.
Discussion to be opened by PAUL H. HOCH, New York, and CLYDE BROOKS, Tuscaloosa, Ala.

Sororities: A Psychiatric Appraisal.
JACKSON A. SMITH, Houston, Texas.
Discussion to be opened by LEO H. BARTEMEIER, Detroit, and NOLAN D. C. LEWIS, New York.

Thursday, June 9—2 p. m.

Use of Phenurone in Epilepsy: Analysis of Fatal Reactions Including a Case Report.
WALLIS L. CRADDOCK, Salt Lake City.
Discussion to be opened by FRANCIS M. FORSTER, Washington, D. C., and DOUGLAS T. DAVIDSON, Boston.

Epileptic Equivalents in Childhood.
FREDERIC T. ZIMMERMAN and BESSIE B. BURGEMEISTER, New York.
Discussion to be opened by MATTHEW T. MOORE, Philadelphia, and RAYMOND D. ADAMS, Boston.

The Importance of Extraolfactory Components in the Identification and Appreciation of Flavors.
EDWARD C. CLARK and HENRY W. DODGE JR., Rochester, Minn.
Discussion to be opened by ROLAND P. MACKAY and HAROLD C. VORIS, Chicago.

Relief of Shoulder-Arm Syndromes by Exercises.
DONALD A. JOHNSON, Memphis, Tenn.
Discussion to be opened by HENRY A. SHENKIN, Philadelphia, and A. M. RABINER, Brooklyn, N. Y.

Lesions of Peripheral Nerves Developing During Coma.
CLARENCE W. OLSEN, Los Angeles.
Discussion to be opened by MAURICE L. SILVER, Providence, R. I.

The Central Nervous System and Cardiovascular Effects of Rauwolfia Serpentina.
B. I. LEWIS, R. I. LUBIN, and L. E. JANUARY, Iowa City.
Discussion to be opened by CHARLES RUPP, Philadelphia, and ARNOLD P. FRIEDMAN, New York.

SECTION ON OBSTETRICS AND GYNECOLOGY

MEETS IN AMBASSADOR HOTEL, RENAISSANCE ROOM

OFFICERS OF SECTION

Chairman—FREDERICK H. FALLS, Chicago.
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Secretary—D. FRANK KALTREIDER, Baltimore.
Delegate—HARVEY B. MATTHEWS, Brooklyn, N. Y.
Representative to Scientific Exhibit—FREDERICK H. FALLS, Chicago.
Executive Committee—BERNARD J. HANLEY, Los Angeles; DR. FALLS; DR. KALTREIDER; and DR. MATTHEWS.

Wednesday, June 8—9 a. m.

Hypertensive Vascular Disease: An Analysis of Toxemia of Pregnancy as an Etiologic Factor.
PHIL C. SCHREIER, J. Q. ADAMS, M. JEAN SMITH, and H. B. TURNER, Memphis, Tenn.
Discussion to be opened by LEON CHESLEY, Brooklyn, N. Y.

A Study of Parturition in Patients Having Contracted Pelves.
H. L. FACHNIS, Detroit.
Discussion to be opened by CHARLES M. STEER, New York.

Panel Discussion on Exfoliative Cytology of the Generative Tract

RICHARD W. TELINDE, Baltimore, Moderator.

Clinical Application of Cytology in an Obstetric and Gynecologic Clinic. F. BAYARD CARTER, Durham, N. C.

The Use of Cytology as a Prognostic Aid to Treatment of Carcinoma of the Cervix. RUTH M. GRAHAM, Boston.

Factors Influencing the Accuracy of the Cytological Diagnosis of Pelvic Cancer. A. E. RAKOFF, Philadelphia.

Diagnostic Cervical Biopsy Studies on the Detection of Early Carcinoma of the Cervix. ROGER B. SCOTT, Cleveland.

Thursday, June 9—9 a. m.

JOINT MEETING WITH SECTIONS ON ANESTHESIOLOGY DISEASES OF THE CHEST, GENERAL PRACTICE AND PEDIATRICS IN CONVENTION HALL, BALLROOM

Panel Discussion on Resuscitation of the Newborn Infant

CLEMENT A. SMITH, Boston, Moderator.

The Importance of Asphyxia Neonatorum: A Statistical Analysis. SCHUYLER G. KOHL, Brooklyn, N. Y.

Prevention of Asphyxia Neonatorum by the Obstetrician.
NICHOLSON J. EASTMAN, Baltimore.

Prevention of Asphyxia Neonatorum by the Anesthesiologist.
MEYER SAKLAD, Providence, R. I.

The Value of Drugs, Oxygen, and Carbon Dioxide as Stimulants to Respiration in the Apneic Infant.
RALPH M. TOVELL, Hartford, Conn.

Morphology of the Newborn Infant's Lungs, as Related to Distensibility, Blood Supply, and Gas Exchange.
EDITH POTTER, Chicago.

Pressures and Volumes Involved in Expansion of the Newborn Infant's Lungs. RICHARD DAY, Brooklyn, N. Y.

The Role of the Laryngologist in Resuscitation of the Newborn.
PAUL H. HOLINGER, Chicago.

Methods of Resuscitating the Newborn Infant.
Practical discussion by all participants.

Friday, June 10—9 a. m.

AMBASSADOR HOTEL, RENAISSANCE ROOM

ELECTION OF OFFICERS

Postmenopausal Uterine Bleeding.
S. LEON ISRAEL and LENNARD L. WEBER, Philadelphia.
Discussion to be opened by ROBERT BARTER, Washington, D. C.

The Role of Mitral Valvulotomy During Pregnancy.
CURTIS L. MENDELSON, New York.
Discussion to be opened by R. ADAMS COWLEY, Baltimore.

Chairman's Address. FREDERICK H. FALLS, Chicago.

The Patient with Four or More Cesarean Sections.
HUGH B. MCNALLY, Baltimore.
Discussion to be opened by ROBERT A. COSGROVE, Jersey City, N. J.

Invasive Carcinoma of the Cervix in Young Women.
D. G. DECKER, R. E. FRICKE, and J. H. PRATT JR., Rochester, Minn.
Discussion to be opened by GEORGE A. HAHN, Philadelphia.

COMBINED MEETING OF SECTION ON OPHTHALMOLOGY WITH ASSOCIATION FOR RESEARCH IN OPHTHALMOLOGY

MEETS IN DENNIS HOTEL, ST. DENNIS ROOM

Section on Ophthalmology

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Representative to Scientific Exhibit—WILLIAM F. HUGHES JR., Chicago.
Executive Committee—FRANCIS H. ADLER, Philadelphia; TRYGVE GUNDERSEN, Boston; DR. HANSEN; DR. SCHEIE; and DR. BENEDICT.

Program of Section on Ophthalmology

Tuesday, June 7—9 a. m.

Chairman's Address. ERLING W. HANSEN, Minneapolis.

Address of Invited Foreign Guest.
J. W. TUDOR THOMAS, Cardiff, Wales.

Fuch's Syndrome of Heterchromic Cyclitis: Analysis of 30 Cases.
SAMUEL J. KIMURA, MICHAEL J. HOGAN, and PHILLIPS THYGESON, San Francisco.
Discussion to be opened by PARKER HEATH, Rockland, Maine.

Circulatory Disturbances of the Retina with Particular Reference to Therapeutic Procedure.
BANKS ANDERSON, Durham, N. C.
Discussion to be opened by ARTHUR J. BEDELL, Albany, N. Y.

Some Instructive Manifestations of Chiasmal Disease: One Case of Pituitary Adenoma, One of Optochiasmic Neuritis (Arachnoiditis) and One of Chiasmal Glioma.
JOHN P. WENDELAND, Minneapolis.
Discussion to be opened by JOHN WOODWORTH HENDERSON, Ann Arbor, Mich.

Therapeutic Studies in Experimental Chemical Injury of the Cornea.
GUSTAV C. BAHN and JAMES H. ALLEN, New Orleans.
Discussion to be opened by HEDWIG S. KUHN, Hammond, Ind.

The Etiology of Retinochoroiditis and Uveitis.
J. V. CASSADY, CARL S. CULBERTSON, and JAMES A. BAHLER, South Bend, Ind.
Discussion to be opened by HARRY A. FELDMAN, Syracuse, N. Y.

Glaucoma Associated with Hypermature Cataract; Phakolytic Glaucoma—A Clinico-Pathologic Study of One Hundred and Forty-Two Cases.
MILTON FLOCKS, San Francisco; STUART C. LITTWIN, Teaneck, N. J.; and LORENZ E. ZIMMERMAN, Washington, D. C.
Discussion to be opened by S. RODMAN IRVINE, Beverly Hills, Calif.

Evaluation of Prednisone and Prednisolone in Ocular Inflammatory Disease.
JOHN H. KING JR. and JOHN R. WEIMER, Washington, D. C.
Discussion to be opened by DAN M. GORDON, New York.

Wednesday, June 8—9 a. m.

Therapy of Congenital Glaucoma.
E. NORRIS ROBERTSON JR., Oklahoma City.
Discussion to be opened by JOSEPH S. HAAS, Chicago.

Report on Thirteen Eyes with Congenital Glaucoma Treated by Goniopuncture.
GEORGE S. TYNER and EDWARD J. SWETS, Denver.
Discussion to be opened by JOSEPH S. HAAS, Chicago.

Mechanical Changes During Accommodation Observed by Gonioscopy.
HERMANN M. BURIAN and LEE ALLEN, Iowa City.
Discussion to be opened by ARTHUR LINKSZ, New York.

Treatment of Monocular Cataracts.
EVERETT L. GOAR, Houston, Texas.
Discussion to be opened by JOHN M. MCLEAN, New York.

The Ocular Significance of Intracranial Calcium Deposits.
JOSEPH E. ALFANO and HARVEY WHITE, Chicago.
Discussion to be opened by FRANK B. WALSH, Baltimore.

Conjunctivitis Associated with Adenoidal-Pharyngeal-Conjunctival Virus Disease.
RALPH W. RYAN, JAMES F. O'ROURKE, GILBERT ISER, ROBERT J. HUEBNER, JOSEPH A. BELL, and ROBERT H. PARROTT, Bethesda, Md.
Discussion to be opened by ALSON E. BRALEY, Iowa City.

Thursday, June 9—9 a. m.

Address of Invited Foreign Guest.
JAMES H. DOGGART, London, England.

A New Ptosis Operation Utilizing Both Levator and Frontalis.
ROBERT A. SCHMEK, Detroit.
Discussion to be opened by R. N. BERKE, Hackensack, N. J.

Experimental Studies on a New Method of Temporary Shortening of the Inner Coats of the Eye.
ANGELOS DELLAPORTA, Buffalo.
Discussion to be opened by DOHRMANN K. PISCHEL, San Francisco.

Cataract Surgery in Megalocornea: A Case Report of Two Extractions and Review of Cases Since 1931.
JOHN W. SMILLIE, Ann Arbor, Mich.
Discussion to be opened by DERRICK VAIL, Chicago.

Electromyography of the Extraocular Muscles.
GOODWIN M. BREININ and JOSEPH MOLDAVER, New York.
Discussion to be opened by FRANCIS H. ADLER, Philadelphia.

The Treatment of Glaucoma with Chronic Administration of Diamox.
BERNARD BECKER, St. Louis.
Discussion to be opened by ROBERT R. TROTTER, Boston.

Diamox in the Treatment of Flat Postoperative Anterior Chamber Following Glaucoma Surgery.
HARVEY E. THORPE, Pittsburgh.
Discussion to be opened by PAUL C. CRAIG, Reading, Pa.

Flat Anterior Chambers.
JOHN G. BELLOWS and HOWARD L. LIEBERMAN, Chicago, and IRA A. ABRAHAMSON JR., Cincinnati.
Discussion to be opened by PETER C. KRONFELD, Chicago.

Association for Research in Ophthalmology

OFFICERS

Chairman—WILLIAM F. HUGHES JR., Chicago.
Secretary-Treasurer—LORAND V. JOHNSON, Cleveland.

Program of Association for Research in Ophthalmology

Tuesday, June 7—1 p. m.

A New Interpretation of the Fundus Reflexes.
ARTHUR J. BEDELL, Albany, N. Y.

Goniocycloscopy and Ophthalmoscopy with the Allen-Thorpe Goniaprism.
HARVEY E. THORPE, Pittsburgh.

The Biochemistry of Visual Excitation.
GEORGE WALD, Cambridge, Mass.

INTERMISSION

Studies in the Photopic-Scotopic Relationships in the Human Electroretinogram.
EDGAR AUERBACH and HERMANN M. BURIAN, Iowa City.

Metabolic Injuries of the Visual Cell.
WERNER K. NOELL, Buffalo.

Electroretinographic Changes Following the Administration of Neotetrazolium, Dithizone, and Alloxan to Animals.
ROBERT J. DAVIS and G. PETER ARNOTT, Iowa City.

Studies on the Visual Toxicity of Methanol: Additional Observations on Methanol Poisoning in the Primate Test Object.
ALBERT M. POTTS, JULIUS PRAGLIN, IRENE FARKAS, L. ORBISON, and DONALD CHICKERING, Cleveland.

Retinal Changes Following Ionizing Radiation.
P. A. CIBIS and D. V. L. BROWN, St. Louis.

Astroglia in the Human Retina.
J. REIMER WOLTER, Ann Arbor, Mich.

Wednesday, June 8—1 p. m.

A Reversible Hydration and Cation Shift of the Cornea.
JOHN E. HARRIS and LORETTA T. NORDQUIST, Portland, Ore.

Some Biochemical Characteristics of Acid Injury of the Cornea: 1. Ascorbic Acid Studies.
M. A. GUIDRY, J. H. ALLEN, and J. B. KELLY, New Orleans.

Lens Induced Endophthalmitis: 3. Experimentally Produced Bilateral Endophthalmitis Phacoanaphylactica.
WOOD LYDA and STUART W. LIPPINCOTT, Seattle.

BUSINESS MEETING

INTERMISSION

Symposium on Recent Trends in Diamox Research

V. EVERETT KINSEY, Detroit, Moderator.

The Effect of Diamox upon the Composition of the Rabbit Aqueous Humor.
BERNARD BECKER, St. Louis.

The Mechanism of Action of Diamox and the Formation of Aqueous Humor.
HARRY GREEN and IRVING H. LEOPOLD, Philadelphia.

Further Studies on Diamox and Aqueous Flow.
JONAS FRIEDENWALD, Baltimore.

Diamox and Intraocular Fluid Dynamics.
V. EVERETT KINSEY, ENRIQUETA CMACHO, GERARD CAVANAUGH, MARGUERITE CONSTANT, and DANIEL A. MCGINTY, Detroit.

Carbonic Anhydrase Activity and the Distribution of Diamox in the Rabbit Eye.
E. J. BALLINTINE, Cleveland, and THOMAS H. MAREN, Stamford, Conn.

Thursday, June 9—1 p. m.

The Effect of Sympathetic Nerve Stimulation on the Ciliary Muscle.
C. E. MELTON, EDWARD W. PURNELL, and G. A. BRECHER, Cleveland.

Spontaneous and Radiation-Induced Iris Atrophy in Mice.
W. H. BENEDICT, K. W. CHRISTENBERRY, and A. C. UPTON, Oak Ridge, Tenn.

The Effect of Beta Irradiation on Ocular Wound Healing.
JAMES E. MCDONALD and HOWARD WILDER, Chicago.

Tissue Culture Methods Used in the Isolation of the Unknown Group of Eye Viruses.
ANN FOWLE, ANNE COCKERAM, and H. L. ORMSBY, Toronto, Canada.

Tissue Culture Techniques in the Study of Herpetic Infections of the Eye.
FRANCES W. DOANE, A. J. RHODES, and H. L. ORMSBY, Toronto, Canada.

Studies of Immunity in Vaccinia Keratitis in Rabbits.
J. S. SPEAKMAN and H. L. ORMSBY, Toronto, Canada.

Observations on the Effect of the Corticosteroid Hormones on Clinical and Experimental Herpetic Keratitis.
SAMUEL J. KIMURA and PHILLIPS THYGESON, San Francisco.

INTERMISSION

The Penetration of Cortisone and Hydrocortisone Into the Ocular Structures.
S. HAMASHIGI and ALBERT M. POTTS, Cleveland.

Mitotic Activity in Epithelia of Cultured Lenses.
V. EVERETT KINSEY, CARL WACHTL, MARGUERITE CONSTANT, and ENRIQUETA CMACHO, Detroit.

Ascorbic-Dehydroascorbic Acid as an Oxidation-Reduction System in the Maintenance of the Metabolism of Lens Cultured in Vitro.
BERNARD SCHWARTZ and P. J. LEINFELDER, Iowa City.

Anaerobic Carbohydrate Metabolism of the Crystalline Lens: The Generation of High Energy Phosphate.
HARRY GREEN, CAROL A. BOCHER, and IRVING H. LEOPOLD, Philadelphia.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN HOTEL CHELSEA, WESTMINSTER HALL

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Delegate—EDWARD L. COMPERE, Chicago.
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Executive Committee—H. RELTON MCCARROLL, St. Louis; CHARLES N. PEASE, Chicago; DR. NICHOLSON; DR. THOMPSON; and DR. COMPERE.

Tuesday, June 7—9 a. m.

Traumatic Dislocation of the Head of the Radius in Children.
F. H. STELLING III and RICHARD H. COTE, Greenville, S. C.
Discussion to be opened by FRANCIS W. GLENN, Miami, Fla., and JOHN H. ALDES, Los Angeles.

The Importance of Routine Preemployment Examinations of the Back.
REX L. DIVELEY and RIAL R. OGLEVIE, Kansas City, Mo.
Discussion to be opened by LEONARD T. PETERSON, Washington, D. C., and CHARLES ROMBOLD, Wichita, Kan.

Vertebral Osteophytosis: A Clinical Syndrome.
EDGAR M. BICK, New York.
Discussion to be opened by J. HAMILTON ALLAN, Charlottesville, Va., and ARTHUR F. SEIFER, Philadelphia.

Fractures of the Humerus: Ambulatory Traction Technique.
HIRA E. BRANCH, Flint, Mich.
Discussion to be opened by CHARLES N. PEASE, Chicago, and EDWARD M. WINANT, New York.

Delayed Closure of Compound Fractures.
DONALD T. IMRIE, Vicksburg, Miss.
Discussion to be opened by ARTHUR A. THIBODEAU, Boston, and CLYDE W. DAWSON, Columbus, Ohio.

Management of Pathological Fractures and Long Bone Fractures of Paraplegic Patients.
ROBERT LEE PATTERSON JR. and S. N. EICHENHOLTZ, New York.
Discussion to be opened by PAUL C. COLONNA, Philadelphia, and ROBERT A. MURRAY, Temple, Texas.

Wednesday, June 8—9 a. m.

ELECTION OF OFFICERS

Division of the Tibial Collateral Ligament for Removal of the Medial Meniscus from the Knee Joint.
JULIUS S. NEVIASER, Washington, D. C.
Discussion to be opened by H. RELTON MCCARROLL, St. Louis, and ROY I. PECK, Philadelphia.

The Role of the Orthopedic Surgeon in the Treatment of Cerebral Palsy.
FREDERICK C. BOST, R. KIRKLIN ASHLEY, and WARREN J. KELLEY, San Francisco.
Discussion to be opened by SIDNEY KEATS, South Orange, N. J., and LENOX D. BAKER, Durham, N. C.

Chairman's Address: The Physician and Compensation Patients.
JESSE T. NICHOLSON, Philadelphia.

Whiplash Injuries: 1. Subluxations of the Cervical Spine.
LEO ARTHUR GREEN, Forest Hills, N. Y.
Discussion to be opened by WALTER L. BAILEY, Wilmington, Del., and HARRY M. SALZER, Cincinnati.

Posterior Dislocation of the Shoulder.
SYLVESTER J. O'CONNOR and ALBERT S. JACKNOW, Ann Arbor, Mich.
Discussion to be opened by FREDERICK M. SMITH, New York, and DANA M. STREET, Memphis, Tenn.

Thursday, June 9—9 a. m.

Acquired Torticollis in Children and Young Adults.
JOHN S. DONALDSON, Pittsburgh.
Discussion to be opened by EMANUEL B. KAPLAN and J. WILLIAM FIELDING, New York.

Meniscus Injuries of the Temporomandibular Joint.
CAROLL M. SILVER, STANLEY D. SIMON, and AMERICO A. SAVASTANO, Providence, R. I.
Discussion to be opened by DAVID M. BOSWORTH, New York, and EDWARD L. COMPERE, Chicago.

Intra-Articular Osteocartilaginous Joint Bodies: Pathogenesis and Clinical Management.
J. VERNON LUCK, Los Angeles.
Discussion to be opened by GEORGE L. INGE, Knoxville, Tenn., and CARTER R. ROWE, Boston.

Arthropathy in the Hemophiliac Patient.
A. F. DEPALMA and J. M. COTLER, Philadelphia.
Discussion to be opened by J. I. KENDRICK, Cleveland, and LEE RAMSAY STRAUB, New York.

Early Diagnosis and Prognosis of Nonunion of the Femoral Neck with the Aid of Laminography.
NORMAN J. ROSENBERG and RUDOLPH S. REICH, Cleveland.
Discussion to be opened by NICHOLAS J. GIANNESTRAS, Cleveland, and J. ROYAL MOORE, Philadelphia.

Fractures of the External Humeral Condyle.
HENRY MILCH, New York.
Discussion to be opened by GEORGE R. MILLER, Gastonia, N. C., and ROBERT E. INGERSOL, Boston.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN CONVENTION HALL, ROOM D

OFFICERS OF SECTION

Chairman—S. A. LEVINSON, Chicago.
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Representative to Scientific Exhibit—FRANK B. QUEEN, Portland, Ore.
Executive Committee—LALL G. MONTGOMERY, Muncie, Ind.; J. EARL THOMAS, Philadelphia; DR. LEVINSON; and DR. HIRSCH.

Tuesday, June 7—9 a. m.

The Origin, Development, and Classification of Epithelial Tumors of the Skin.
ROBERT P. MOREHEAD, Winston-Salem, N. C.
Discussion to be opened by HERBERT LUND, Greensboro, N. C.

The Physiological Basis of Transfusion Therapy in Hemophilia.
K. M. BRINKHOUS, R. D. LANGDELL, GEORGE D. PENICK, R. H. WAGNER, and JOHN B. GRAHAM, Chapel Hill, N. C.
Discussion to be opened by C. LOCKARD CONLEY, Baltimore, and MARTIN C. ROSENTHAL, New York.

The Pathologic Effects of Smoking on the Larynx.
ROBERT F. RYAN, JOHN R. MCDONALD, and KENNETH D. DEVINE, Rochester, Minn.
Discussion to be opened by FRANK W. KONZELMANN, Washington, D. C., and ROBERT C. HORN JR., Philadelphia.

A Postmortem Study of the Bronchial Mucosa as Related to Occupation, Residence, and Smoking.
RUSSELL W. WELLER, Philadelphia.
Discussion to be opened by PETER A. HERBUT, Philadelphia, and ELWYN L. HELLER, Pittsburgh.

Inborn Errors of Lipid Metabolism: Clinical, Genetic, and Chemical Aspects. DAVID ADLERSBERG, New York.
Discussion to be opened by S. J. THANNHAUSER, Boston, and EDWIN F. HIRSCH, Chicago.

Anatomic and Mechanical Studies of the Ileocecal Orifice.
ALEX W. ULIN, JOEL DEUTSCH, and WILLIAM SHOEMAKER, Philadelphia.
Discussion to be opened by WALTER C. ALVAREZ, Chicago, and FELIX G. FLEISHNER, Boston.

Enzyme Inhibitors of Gastric Hydrochloric Acid Secretion: A New Approach in Research on the Therapy of Peptic Ulcer.
FRANKLIN HOLLANDER and HENRY D. JANOWITZ, New York.
Discussion to be opened by JOSEPH B. KIRSNER, Chicago.

Wednesday, June 8—9 a. m.

BUSINESS MEETING: PRESENTATION OF SCIENTIFIC EXHIBITORS

Chairman's Address. S. A. LEVINSON, Chicago.

Myleran (1,4 dimethanesulfonoxybutane) in Chronic Granulocytic Leukemia.
JOHN LOUIS, LOUIS R. LIMARZI, and WILLIAM R. BEST, Chicago.
Discussion to be opened by HOWARD L. ALT, Chicago; CHRIS J. D. ZARAFONETIS, Philadelphia; and JOSEPH H. BURCHENAL, New York.

Occlusive Vascular Lesions in Sickle Cell Disease.
L. W. DIGGS and COLIN F. VORDER BRUEGGE, Memphis, Tenn.
Discussion to be opened by ROLAND B. SCOTT, and F. K. MOSTOFI, Washington, D. C.

Interstitial Cell Tumors of Testes.
F. K. MOSTOFI, Washington, D. C.
Discussion to be opened by HARLAN I. FIRMINGER, Kansas City, Kan., and ROBERT E. SCULLEY, Boston.

Comparative Incidence of Cholelithiasis in the Negro and Caucasian Races: A Study of 5,000 Autopsies.
FIRMAN E. HARDENBERGH and JOSEPH A. CUNNINGHAM, Birmingham, Ala.
Discussion to be opened by CHARLES F. BRANCH, Lewiston, Maine, and W. A. D. ANDERSON, Miami, Fla.

The Pathology of the Conduction System in Acquired Heart Disease: 1. Complete Atrioventricular Block.
MAURICE LEV and PAUL UNGER, Miami Beach, Fla.
Discussion to be opened by PHILIPP REZEK, Miami, Fla.

Thursday, June 9—9 a. m.

JOINT MEETING WITH SECTION ON GASTROENTEROLOGY AND PROCTOLOGY IN CLARIDGE HOTEL, TRIMBLE HALL

Carcinoids of the Gastrointestinal Tract.
MERRILL O. HINES, New Orleans.
Discussion to be opened by R. B. TURNBULL JR., Cleveland, and CLARENCE DENNIS, Brooklyn, N. Y.

Clinical Observations on Hepatic Fibrosis.
CARROLL M. LEEVY, St. Albans, Long Island, N. Y.; ANGELO M. GNASSI and MARTIN W. POLLINI, Jersey City, N. J.

Tumors of the Liver in Infants and Children.
HUGH A. EDMONDSON, Los Angeles.
Discussion to be opened by DOROTHY H. ANDERSEN, New York; JAMES B. AREY and JOHN R. NEEFE, Philadelphia; and ARTHUR W. WRIGHT, Albany, N. Y.

Verrucae Accuminatae in the Anorectum (with Consideration of the Cancer Problem). H. MARK YOUNG, Los Angeles.
Discussion to be opened by PETER A. HERBUT, Philadelphia; J. EDWIN ALFORD, Buffalo; and DAVID A. WOOD, San Francisco.

Clinical-Pathological Conference

JOHN R. SCHENKEN, Omaha, Moderator.
Participants: HENRY L. BOCKUS, Philadelphia; CALEB H. SMITH, Scott Air Force Base, Ill.; and STANLEY M. WYMAN, Boston.

SECTION ON PEDIATRICS

MEETS IN CONVENTION HALL, BALLROOM

OFFICERS OF SECTION

Chairman—WILLIAM WESTON JR., Columbia, S. C.
Vice Chairman—THURMAN G. GIVAN, Brooklyn, N. Y.
Secretary—WYMAN C. C. COLE, Detroit.
Delegate—WOODRUFF L. CRAWFORD, Rockford, Ill.
Representative to Scientific Exhibit—F. THOMAS MITCHELL, Memphis, Tenn.
Executive Committee—EUGENE T. MCENERY, Chicago; OLIVER L. STRINGFIELD, Stamford, Conn.; DR. WESTON; DR. COLE; and DR. CRAWFORD.

Tuesday, June 7—9 a. m.

JOINT MEETING WITH SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH IN CONVENTION HALL, BALLROOM

Panel Discussion on Prospects for the Control of Poliomyelitis

HART E. VAN RIPER, New York, Moderator.

Theoretical and Experimental Considerations in the Preparation and Use of a Noninfectious Poliomyelitis Virus Vaccine. JONAS E. SALK, Pittsburgh.

The 1954 Poliomyelitis Vaccine Field Trial: Plan, Field Operations, and Follow-Up Observations.
THOMAS D. DUBLIN, New York.

Evaluation of the 1954 Poliomyelitis Vaccine Field Trial: Further Studies of Results Determining the Effectiveness of Poliomyelitis Vaccine (Salk) in Preventing Paralytic Poliomyelitis. THOMAS FRANCIS JR., Ann Arbor, Mich.

Public Health Implications in a Program of Vaccination Against Poliomyelitis. LEONARD A. SCHEELE, Washington, D. C.
Discussion to be opened by AIMS C. MCGUINNESS, Washington, D. C.; JOSEPH STOKES JR., Philadelphia; and ALBERT B. SABIN, Cincinnati.

Wednesday, June 8—2 p. m.

HOTEL CHELSEA, WESTMINSTER ROOM

BUSINESS MEETING

Chairman's Address. WILLIAM WESTON JR., Columbia, S. C.

The Role of the Pediatrician in the Hospital Care of the Orthopedically Handicapped Child.
HELEN M. WALLACE, ROBERTS S. SIFFERT, and JEROME S. TOBIS, New York.
Discussion to be opened by HORACE L. HODES and A. R. SHANDS JR., Wilmington, Del.

Sickle Cell Anemia. ROLAND B. SCOTT, Washington, D. C.
Discussion to be opened by LEMUEL W. DIGGS, Memphis, Tenn., and JAMES A. WOLFF, New York.

A Di-Syndrome of the Laryngeal Nerve.
CHARLES C. CHAPPLE, Philadelphia.

The Pediatrician Examines the Mother and Child.
E. ROBBINS KIMBALL, Evanston, Ill.

Fibrocystic Fibrosis of the Pancreas.
PAUL A. DI SANT'AGNESE, New York.
Discussion to be opened by HARRY SHWACHMAN, Boston, and ROGER L. J. KENNEDY, Rochester, Minn.

Purpura in Childhood: A Ten Year Review.
STEPHEN D. MILLS, Rochester, Minn.
Discussion to be opened by DAVID H. CLEMENT, New Haven, Conn., and COLIN C. STEWART, Hanover, N. H.

Thursday, June 9—9 a. m.

JOINT MEETING WITH SECTIONS ON ANESTHESIOLOGY, DISEASES OF THE CHEST, GENERAL PRACTICE AND OBSTETRICS AND GYNECOLOGY IN CONVENTION HALL, BALLROOM

Panel Discussion on Resuscitation of the Newborn Infant

CLEMENT A. SMITH, Boston, Moderator.

The Importance of Asphyxia Neonatorium, A Statistical Analysis. SCHUYLER G. KOHL, Brooklyn, N. Y.

Prevention of Asphyxia Neonatorium by the Obstetrician.
NICHOLSON J. EASTMAN, Baltimore.

Prevention of Asphyxia Neonatorium by the Anesthesiologist.
MEYER SAKLAD, Providence, R. I.

The Value of Drugs, Oxygen, and Carbon Dioxide as Stimulants to Respiration in the Apneic Infant.
RALPH M. TOVELL, Hartford, Conn.

Morphology of the Newborn Infant's Lungs, as Related to Distensibility, Blood Supply, and Gas Exchange.
EDITH POTTER, Chicago.

Pressures and Volumes Involved in Expansion of the Newborn Infant's Lungs. RICHARD DAY, Brooklyn, N. Y.

The Role of the Laryngologist in Resuscitation of the Newborn.
PAUL H. HOLINGER, Chicago.

Methods of Resuscitating the Newborn Infant.
Practical discussion by all participants.

SECTION ON PHYSICAL MEDICINE AND REHABILITATION

MEETS IN HOTEL CHELSEA, WEDGEWOOD ROOM

OFFICERS OF SECTION

Chairman—WILLIAM H. SCHMIDT, Philadelphia.
Vice Chairman—FRANCES BAKER, San Mateo, Calif.
Secretary—WALTER J. ZEITER, Cleveland.
Delegate—FRANK H. KRUSEN, Rochester, Minn.
Representative to Scientific Exhibit—DONALD A. COVALT, New York.
Executive Committee—KRISTIAN G. HANSSON, New York; WALTER M. SOLOMON, Cleveland; DR. SCHMIDT; DR. ZEITER; and DR. KRUSEN.

Wednesday, June 8—9 a. m.

BUSINESS MEETING

Chairman's Address: The Importance of Diagnostic Procedures in Physical Medicine.
WILLIAM H. SCHMIDT, Philadelphia.

Current Trends in Physical Medicine and Rehabilitation.
ARTHUR L. WATKINS, Boston.
Discussion to be opened by FRANK H. KRUSEN, Rochester, Minn.

Treatment of the Patient with Rheumatoid Arthritis by Physical Means. JAMES W. RAE JR., Ann Arbor, Mich.
Discussion to be opened by EDWARD W. LOWMAN, New York.

Further Evaluation of Heating by Microwaves and by Infrared as Used Clinically.
GORDON M. MARTIN and J. F. HERRICK, Rochester, Minn.
Discussion to be opened by BRUCE B. GRYNBAUM, New York.

Common Causes of Pain in the Neck and Shoulder and Their Response to Therapy. EDWARD M. KRUSEN, Dallas.
Discussion to be opened by RICHARD T. SMITH, Philadelphia.

Biophysical Basis of Physical Medicine.
HERMAN P. SCHWAN, Philadelphia.
Discussion to be opened by J. F. HERRICK, Rochester, Minn.

Role of Inactivity in Production of Disease: Hypokinetic Disease.
HANS KRAUS, BONNIE PRUDEN HIRSCHLAND, and KURT HIRSCHHORN, New York.
Discussion to be opened by HAROLD DINKEN, Denver.

Thursday, June 9—9 a. m.

BUSINESS MEETING

Mobile Physical Therapy Unit for Treatment of Arthritis.
THOMAS F. HINES, New Haven, Conn.
Discussion to be opened by RALPH E. WORDEN, Columbus, Ohio.

The Role of Occupational Therapy in Rehabilitation.
ROBERT L. BENNETT, Warm Springs, Ga.
Discussion to be opened by LOUIS B. NEWMAN, Chicago.

Mobilization of the Helpless Patient: A Case Presentation.
HERMAN L. RUDOLPH, Philadelphia.
Discussion to be opened by WALTER J. TREANOR, San Francisco.

Electromyography as an Aid in Medical Diagnosis.
PAUL A. SHEA and WARD W. WOODS, San Diego, Calif.
Discussion to be opened by O. LEONARD HUDDLESTON, Santa Monica, Calif.

The Use of Ultrasonic Radiation in the Treatment of Epicondylitis. JOHN H. ALDES, Los Angeles.
Discussion to be opened by WILLIAM BIERMAN, New York.

Placement of Rehabilitated Patients.
A. RAY DAWSON and R. N. ANDERSON, Richmond, Va.
Discussion to be opened by BEN L. BOYNTON, Chicago.

Preliminary Experience with Exoskeletal Splitbrook Prostheses for Upper Extremities of Traumatic Quadriplegic Patients.
ROY H. NYQUIST, Long Beach, Calif.
Discussion to be opened by JOHN H. KUITERT, Fort Sam Houston, Texas.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN CONVENTION HALL

OFFICERS OF SECTION

Chairman—JOHN J. PHAIR, Cincinnati.
Vice Chairman—EDWARD P. LUONGO, Los Angeles.
Secretary—FRANK PRINCI, Cincinnati.
Delegate—RUTHERFORD T. JOHNSTONE, Los Angeles.
Representative to Scientific Exhibit—PAUL A. DAVIS, Akron, Ohio.
Executive Committee—VLADO A. GETTING, Boston; JEAN S. FELTON, Oak Ridge, Tenn.; DR. PHAIR; DR. PRINCI; and DR. JOHNSTONE.

Tuesday, June 7—9 a. m.

JOINT MEETING WITH SECTION ON PEDIATRICS IN CONVENTION HALL, BALLROOM

Panel Discussion on Prospects for the Control of Poliomyelitis

HART E. VAN RIPER, New York, Moderator.

Theoretical and Experimental Considerations in the Preparation and Use of a Noninfectious Poliomyelitis Virus Vaccine. JONAS E. SALK, Pittsburgh.

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Discussion to be opened by AIMS C. MCGUINNESS, Washington, D. C.; JOSEPH STOKES JR., Philadelphia; and Albert B. SABIN, Cincinnati.

Wednesday, June 8—9 a. m.

MEETS IN CONVENTION HALL, ROOM A

ELECTION OF OFFICERS: BUSINESS MEETING.

The Problem of the Etiological Diagnosis of Industrial Pulmonary Disease.
IRVING R. TABERSHAW and MORRIS KLEINFELD, New York.

Industrial Ophthalmology as of 1955.
HEDWIG S. KUHN, Hammond, Ind.
Discussion to be opened by E. S. JONES, Hammond, Ind.

An Analysis of the Value of Laboratory and Roentgenographic Studies in Routine Periodic Health Examinations.
ROBERT J. BOLT, CHARLES J. TUPPER, O. T. MALLERY JR., and H. M. FOLLARD, Ann Arbor, Mich.

Pulmonary Function Studies in Diatomaceous Earth Workers.
HURLEY L. MOTLEY, REGINALD H. SMART, and AARON VALERO, Los Angeles.

Diagnostic Service for the Practitioner of Medicine by the Health Department.
CASCO N. ALSTON JR., ANTHONY A. BIANCO, and THEODORE ROSENTHAL, New York.

Mobile Trailer-Clinic for Periodic Examinations.
LOGAN T. ROBERTSON, Asheville, N. C.

Thursday, June 9—2 p. m.

MEETS IN CONVENTION HALL, ROOM A

Chairman's Address. JOHN J. PHAIR, Cincinnati.

Anticoagulant Rodenticides. J. PALMER SAUNDERS, Baltimore.

A Statistical Review of Industrial Lead Poisoning.
WILLIAM C. WILENTZ and ANTHONY T. MEOLD, Perth Amboy, N. J.

Thursday, June 9—3:30 p. m.

JOINT MEETING WITH THE SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY IN CONVENTION HALL, ROOM D

It Can Happen to You.

A Mock Trial Presented by the Subcommittee on Noise in Industry of the Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology.

HOWARD P. HOUSE, Los Angeles, Moderator.

SECTION ON RADIOLOGY

MEETS IN AMBASSADOR HOTEL, VENETIAN ROOM

OFFICERS OF SECTION

Chairman—LAURENCE L. ROBBINS, Boston.
Vice Chairman—LEO G. RIGLER, Minneapolis.
Secretary—TRAIAN LEUCUTIA, Detroit.
Delegate—B. R. KIRKLIN, Rochester, Minn.
Representative to Scientific Exhibit—RICHARD H. CHAMBERLAIN, Philadelphia.
Executive Committee—PAUL C. HODGES, Chicago; KENNETH D. A. ALLEN, Denver; DR. ROBBINS; DR. LEUCUTIA; and DR. KIRKLIN.

Tuesday, June 7—2 p. m.

Symposium on Radiation Hazards

Radiation Hazards to Personnel in Diagnostic Roentgen Procedures. MAX RITVO and G. J. D'ANGIO, Boston.

Unavoidable Reactions Following Radical Radiation Therapy.
MILTON FRIEDMAN, New York.

Late Follow-Up Studies After the Internal Deposition of Radioactive Materials.
WILLIAM B. LOONEY and MARTIN COLODZIN, Bethesda, Md.
Discussion to be opened by BERNARD ROSWIT, Bronx, N. Y.

Benign Lesions Simulating Bone Tumors.
VINCENT P. COLLINS and LOIS COWAN COLLINS, Houston, Texas.
Discussion to be opened by HORACE C. JONES, Grand Rapids, Mich.

X-Ray Findings in Trigeminal Neuralgia.
W. JAMES GARDNER and J. PORTUGAL PINTO, Cleveland.
Discussion to be opened by PAUL C. SWENSON, Philadelphia.

Whipple's Disease: Extraintestinal Manifestations.
WILLIAM R. EYLER and HOWARD P. DOUB, Detroit.

Radiologic Diagnosis of Retained Surgical Sponges.
HERBERT M. OLNICK, Macon, Ga.; H. STEPHEN WEENS, and JAMES V. ROGERS JR., Atlanta, Ga.
Discussion to be opened by BARTON R. YOUNG, Germantown, Pa.

Wednesday, June 8—2 p. m.

ELECTION OF OFFICERS

Chairman's Address: The Effect of Health Insurance Plans on the Practice and Teaching of Radiology.
LAURENCE L. ROBBINS, Boston.

Symposium on Newer Contrast Media for Visualization of the Biliary Passages

Experience with Five Oral Cholecystographic Media.
E. E. SEEDORF and W. N. POWELL, Temple, Texas.

Oral Cholecystography with Telepaque.
LAWRENCE REYNOLDS and HAROLD FULTON, Detroit.

Intravenous Cholecystocholangiography.
WILLIAM H. SHEHADI, New York.

Intravenous Cholangiography in the Postcholecystectomy Syndrome.
JOHN MCCLENAHAN, JOHN A. EVANS, and PAUL W. BRAUNSTEIN, New York.
Discussion to be opened by ROBERT JAMES REEVES, Durham, N. C., and RALPH SCHLAEGER, New York.

Symposium on Newer Methods of Roentgenologic Examination of the Gastrointestinal Tract

The Use of Water-Soluble, Nonabsorbable Radio-Opaque Medium in Gastrointestinal Pathology.
LAWRENCE A. DAVIS, K. C. HUANG, and EVERETT L. PIRKEY, Louisville, Ky.

Roentgenocinematography of the Gastrointestinal Tract.
RUSSELL H. MORGAN, Baltimore.
Discussion to be opened by GERARD RAAP, Miami, Fla.

Thursday, June 9—2 p. m.

JOINT MEETING WITH THE SECTION ON DISEASES OF THE CHEST IN CONVENTION HALL, ROOM C

Panel Discussion on Silent Lesions That Are Picked up on Chest Surveys

J. RICHARDS AURELIUS, St. Paul, Moderator.

Internist. MARSH MCCALL, New York.

Roentgenologists.
C. ALLEN GOOD JR., Rochester, Minn., and CARL C. BIRKELO, Detroit.

Surgeons.
RICHARD H. OVERHOLT, Boston, and WILLIAM M. TUTTLE, Detroit.

Panel Discussion on Cardiovascular Diseases

FRED JENNER HODGES, Ann Arbor, Mich., Moderator.

Internist. RICHARD J. BING, Birmingham, Ala.

Roentgenologists.
ANDRE BRUWER, Rochester, Minn., and CHARLES T. DOTTER, Portland, Ore.

Surgeons.
DWIGHT EMARY HARKEN, Boston, and RICHARD L. VARCO, Minneapolis.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN CLARIDGE HOTEL, TRIMBLE HALL

OFFICERS OF SECTION

Chairman—ROBERT M. ZOLLINGER, Columbus, Ohio.
Vice Chairman—JOHN D. STEWART, Buffalo.
Secretary—WALTER G. MADDOCK, Chicago.
Delegate—GROVER C. PENBERTHY, Detroit.
Representative to Scientific Exhibit—JOHN H. MULHOLLAND, New York.
Executive Committee—I. RIDGEWAY TRIMBLE, Baltimore; EMILE F. HOLMAN, San Francisco; DR. ZOLLINGER; DR. MADDOCK; and DR. PENBERTHY.

Tuesday, June 7—2 p. m.

The Powerful Placebo. HENRY K. BEECHER, Boston.
Discussion to be opened by LOUIS LASAGNA, Baltimore, and ARTHUR S. KEATS, Houston, Texas.

Studies in Pancreatitis, Sphincteritis, and Choledocholithiasis as Causes of Postcholecystectomy Dyskinesia.
WALTMAN WALTERS, Rochester, Minn.
Discussion to be opened by WARREN H. COLE, Chicago, and FRANK GLENN, New York.

An Eight Year Study of Pancreatitis and Sphincterotomy.
JOHN H. MULHOLLAND and HENRY DOUBILET, New York.
Discussion to be opened by WALTMAN WALTERS, Rochester, Minn., and WILLIAM A. ALTEMEIER, Cincinnati.

Primary Subtotal Gastric Resection for Acute Perforated Peptic Ulcers. J. DEWEY BISGARD, Omaha.
Discussion to be opened by J. M. EMMETT, Clifton Forge, Va., and MICHAEL E. DE BAKEY, Houston.

The Management of Metastatic Mammary Cancer.
O. H. PEARSON, M. C. LI, J. P. MACLEAN, M. B. LIPSETT, and C. D. WEST, New York.
Discussion to be opened by B. J. KENNEDY, Minneapolis, and WILLIAM BAKER, Boston.

Estimation of Operative Risk in 1955.
CARL A. MOYER, St. Louis.
Discussion to be opened by HENRY K. BEECHER, Boston, and WALTER G. MADDOCK, Chicago.

Wednesday, June 8—2 p. m.

ELECTION OF OFFICERS

Chairman's Address. ROBERT M. ZOLLINGER, Columbus, Ohio.

The Scientific Basis for the Surgical Treatment of Coronary Artery Disease.
CLAUDE S. BECK and DAVID S. LEIGHNINGER, Cleveland.
Discussion to be opened by GEORGE D. GECKELER, Philadelphia, and N. A. ANTONIUS, Newark, N. J.

Radioiodine or Surgery in the Treatment of Hyperthyroidism.
DWIGHT E. CLARK, Chicago.

Cryptorchidism. ROBERT E. GROSS, Boston.
Discussion to be opened by D. EVERETT KOOP, Philadelphia, and ROBERT S. HOTCHKISS, New York.

The Emergency and the Definitive Treatment of Acute Bleeding from Esophageal Varices. ROBERT R. LINTON, Boston.
Discussion to be opened by DANIEL S. ELLIS, Brookline, Mass., and C. STUART WELCH, Albany, N. Y.

Thursday, June 9—2 p. m.

JOINT MEETING WITH THE SECTION ON MILITARY MEDICINE IN CLARIDGE HOTEL, TRIMBLE HALL

Concepts of the Provision and Use of Whole Blood in Military and Civilian Defense Emergency.
WILLIAM H. CROSBY JR. and JOSEPH H. AKEROYD, Washington, D. C.
Discussion to be opened by JOHN G. GIBSON II, Boston, and MARY SPROUL, Washington, D. C.

Management of Injuries to the Thorax.
BRIAN BLADES, Washington, D. C.
Discussion to be opened by EDWARD M. KENT, Pittsburgh, and LAWRENCE M. SHEFTS, San Antonio, Texas.

Psychological Reactions in Mass Casualties.
E. L. CAVENY, Birmingham, Ala.
Discussion to be opened by CALVIN DRAYER, Philadelphia, and ALBERT J. GLASS, Washington, D. C.

The Primary Care of Injuries About the Face.
TRUMAN G. BLOCKER JR., Galveston, Texas.
Discussion to be opened by HERBERT CONWAY, New York, and PAUL W. GREELEY, Chicago.

Basic Principles in the Management of Open Fractures.
OSCAR P. HAMPTON JR., St. Louis.
Discussion to be opened by WILLIAM H. CASSEBAUM, New York, and THOMAS L. WARING, Memphis, Tenn.

Modern Concepts in the Treatment of Burns.
CURTIS P. ARTZ, Fort Sam Houston, Texas.
Discussion to be opened by HENRY P. ROYSTER, Philadelphia, and OAKLEY PARK, Chanute Field, Ill.

SECTION ON UROLOGY

MEETS IN MARLBOROUGH-BLENHEIM HOTEL WEDGEWOOD ROOM

OFFICERS OF SECTION

Chairman—CHARLES C. HIGGINS, Cleveland.
Vice Chairman—STANFORD W. MULHOLLAND, Philadelphia.
Secretary—RUBIN H. FLOCKS, Iowa City.
Delegate—JAY J. CRANE, Los Angeles.
Representative to Scientific Exhibit—ROGER W. BARNES, Los Angeles.
Executive Committee—EARL E. EWERT, Boston; REX E. VAN DUZEN, Dallas, Texas; DR. HIGGINS; DR. FLOCKS; and DR. CRANE.

Wednesday, June 8—9 a. m.

Symposium on Some Aspects of Prostatic Cancer

Conservative Treatment of Carcinoma of the Prostate.
THOMAS L. POOL, Rochester, Minn.

Hemorrhagic Diathesis Occurring in Patients with Prostatic Cancer.
GEORGE R. PROUT, WILLET F. WHITMORE JR., MALCOLM SIEGEL, and EUGENE E. CLIFFTON, New York.

The Significance of the Palpable Prostatic Nodule.
HUGH J. JEWETT, Baltimore.
Discussion to be opened by A. E. GOLDSTEIN, Baltimore.

Symposium on Infertility Problems

Male Infertility: Present Status of Therapy, Prevention, and Current Researches.
EDWARD T. TYLER, Los Angeles, and HERON O. SINGHER, Raritan, N. J.

The Treatment of Male Infertility with Large Doses of Testosterone. CHARLES W. CHARNY, Philadelphia.

A Report on Successful Pregnancies Achieved in the Relatively Infertile Couple. W. C. KEETTEL, Iowa City.

Thursday, June 9—9 a. m.

BUSINESS MEETING: ELECTION OF OFFICERS

Chairman's Address: Evolving Trends in Urology.
CHARLES C. HIGGINS, Cleveland.

Panel Discussion on Physiological, Medical, and Surgical Aspects of the Adrenal Gland

R. H. FLOCKS, Iowa City, Moderator.

Panel Participants: ARTHUR GROLLMAN, Dallas, Texas; WILLIAM C. BAUM, Ann Arbor, Mich.; EUGENE POUTASSE, Cleveland; J. HARTWELL HARRISON, Boston; EDWIN C. GRAF, Chicago; and W. W. SCOTT, Baltimore.

Friday, June 10—9 a. m.

Symposium on Newer Developments in the Management of Genitourinary Infections

A Combination Treatment of Urinary Tract Infections.
WILLIAM J. TOLAND and J. W. SCHWARTZ, Washington, D. C.

Chronic Prostatitis.
E. J. O'SHAUGHNESSY, P. S. PARRINO, and JOHN D. WHITE, Camp Kilmer, N. J.

Chemotherapy of Renal Tuberculosis.
JOHN K. LATTIMER, New York.
Discussion opened by THOMAS A. MORRISSEY, New York.

Massive Electrocoagulation of Deeply Infiltrating Bladder Tumors Combined with Ligation of the Vena Cava for Prevention of Pulmonary Embolism: A Follow-Up Report.
EDWARD J. RICHARDSON JR. and FREDERIC FOLEY, St. Paul, Minn.

Transcapsular Rupture of the Kidney.
R. FRANK JONES, Washington, D. C.

Recurrence Rate and Bilateral Aspect of Renal Calculi.
ROGER BAKER, Washington, D. C.

A New Therapy for Recurrent Calcium Containing Stones.
EDWIN L. PRIEN, Brookline, Mass., and BURNHAM S. WALKER, Boston.

COLOR TELEVISION

CONVENTION HALL, STAGE

The color television program has been prepared by the local committee on television of which V. Earl Johnson, Atlantic City, is chairman, and I. S. Ravdin, Philadelphia, co-chairman. The telecasts, sponsored and produced by Smith, Kline & French Laboratories of Philadelphia, will originate from the Hospital of the University of Pennsylvania, Philadelphia.

PROGRAM

Monday morning, June 6

9:00 a. m.	**Thoracic Operations.**	JULIAN JOHNSON.
10:00 a. m.	**Colectomy.**	L. KRAFFT FERGUSON.

Monday afternoon, June 6

2:00 p. m. **Hypothermia.** ROBERT D. DRIPPS.
2:45 p. m. **The Use of Freeze-Dried Arterial Grafts.** WILLIAM S. BLAKEMORE and HERNDON B. LEHR.
3:15 p. m. **The Diagnosis of Cardiac Abnormalities.** HARRY F. ZINSSER JR. and TRUMAN G. SCHNABEL JR.

Tuesday morning, June 7

9:00 a. m. **Gastrectomy.** JONATHAN E. RHOADS.
10:00 a. m. **Pneumonectomy.** W. EMORY BURNETT.

Tuesday afternoon, June 7

2:00 p. m. **Carcinoma of the Cervix.** GEORGE C. LEWIS JR.
2:45 p. m. **Special Dermatological Problems.** DONALD M. PILLSBURY.
3:15 p. m. **Intestinal Intubation.** THOMAS E. MACHELLA.

Wednesday morning, June 8

9:00 a. m. **Hip Joint Reconstruction.** PAUL C. COLONNA.
10:00 a. m. **Resection of the Esophagus.** JOHN H. GIBBON JR.

Wednesday afternoon, June 8

2:00 p. m. **The Care of Ileostomy and Colostomy.** DONALD R. COOPER.
2:30 p. m. **The Surgery of Hypertension.** WILLIAM T. FITTS JR. and WILLIAM A. JEFFERS.
3:00 p. m. **The Use of Radioactive Isotopes in Diagnosis and Therapy.** RICHARD H. CHAMBERLAIN and ANTOLIN RAVENTOS, IV.

Thursday morning, June 9

9:00 a. m. **Fenestration.** EDWARD H. CAMPBELL.
10:00 a. m. **Plastic Surgery.** HENRY P. ROYSTER.

Thursday afternoon, June 9

2:00 p. m. **Ophthalmic Operations.** HAROLD G. SCHEIE.
3:00 p. m. **The Arthritic Patient.** JOSEPH L. HOLLANDER.
3:30 p. m. **The Periodic Health Examination.** KENDALL A. ELSOM.

Friday morning, June 10

9:00 a. m. **Choledocholithotomy.** I. S. RAVDIN.
10:00 a. m. **Vaginal Hysterectomy.** FRANKLIN L. PAYNE.

MOTION PICTURE PROGRAM

Monday to Friday, June 6-10

CONVENTION HALL, ROOM B

The motion picture program has been arranged with the cooperation of the Committee on Medical Motion Pictures of which Mr. Ralph P. Creer is Secretary.

Aortic Graft for Abdominal Aneurysm.

A. W. HUMPHRIES, Cleveland.

This film shows an angiogram showing aneurysm, abdominal exposure, and isolation of the aneurysm. Resection is shown in detail, as is the establishment of the anastomotic lines between the host aorta and common iliac arteries and the corresponding portions of a freeze-dried aortic bifurcation graft. Closure is minimized. A final sequence shows opening of the resected aneurysms as a pathological specimen. Sound, 19 minutes.

Inguinal Hernia and Hydrocele in Infants and Children.

WILLIAM L. RIKER, ARTHUR DE BOER, and WILLIS J. POTTS, Chicago.

This film shows the basic facts about congenital inguinal hernia in infants and children. The embryology is illustrated with modified animation. Essentials for diagnosis are mentioned. Surgery is the treatment of choice and is amply illustrated on the operating table. Sound, 17 minutes.

Recording Oximeters and Their Application.

JOHN F. PERKINS JR. and WILLIAM ADAMS, Chicago.

This motion picture briefly outlines principles of operation of ear oximeters, advantages of recording type oximeters over galvanometer types, uses of oximeters in teaching physiology of respiration, in pulmonary function studies, in thoracic surgery, in postoperative oxygen therapy. Sound, 14 minutes.

Radioisotopes: Their Application to Humans As Tracer Studies and for Therapeutic Use.

U. S. ATOMIC ENERGY COMMISSION, Washington, D. C.

This film gives a comprehensive review of the application of radioisotopes directly to the patient and shows the use of radioactive iodine, sodium, iron, calcium, lanthanum, strontium, cobalt, phosphorus, gold, and the neutron capture therapy involving boron for treatment of brain tumors. Sound, 32 minutes.

Abdominal Pregnancy with Living Baby.

MILTON L. MCCALL, New Orleans.

This film shows an abdominal pregnancy at full-term gestation. The patient has had four previous laparotomies, two for pelvic disease and two for intestinal obstruction. Partial intestinal obstruction was present during the present pregnancy. The diagnostic procedures including history, pelvic examination, abdominal x-rays, hysterosalpingography, and tocography are shown and the relative importance of each one emphasized. Laparotomy with delivery of living normal full-term infant is shown. Sound, 14 minutes, with discussion by author.

Principles of Fracture Reduction.

VETERANS ADMINISTRATION.

This is a teaching film based purely on application of the fundamentals of the reduction of fractures by traction and suspension and an understanding of the anatomy in various fractures of the long bones. The anatomy is illustrated by animation. The film places emphasis on the fact that fractures are reduced by brains and not brawn. Sound, 30 minutes.

Radical Surgery for Advanced Lung Cancer.

ADRIAN LAMBERT, New York.

The main portion of the film brings out the radical surgical approach to advanced lung cancer when the disease has progressed outside the lung into the chest wall and the mediastinum. The correct handling of this extensive disease is emphasized in order to give the patient the benefits of a possible cure. Sound, 32 minutes, with discussion by author.

The Clinical Manifestations and Treatment of Gout.

ELMER C. BARTELS, Boston.

This film deals with the diagnosis, clinical manifestations, and present-day therapy of gout. Sound, 25 minutes.

Gout and Gouty Arthritis.

JOHN H. TALBOTT, Buffalo, and ALEXANDER B. GUTMAN, New York.

This film demonstrates current knowledge on the history, etiology, and diagnosis and treatment of gout and gouty arthritis with particular reference to the uricosuric agent probenecid. Sound, 18 minutes.

Differential Diagnosis of Arthritis.

WILLIAM B. RAWLS, New York.

This film shows by the split frame technique both rheumatoid arthritis and osteoarthritis at the same time. Differential diagnostic points are discussed and treatment by cortisone, intra-articular injections of hydrocortisone, Butazolidin, gold therapy, exercises, etc., are shown. Sound, 30 minutes.

The Rizzoli Stone Operation for Correction of Atresia Ani Vaginalis.

JOHN G. MATT, Tulsa, Okla.

This motion picture demonstrates the Rizzoli Stone operation being utilized to correct a case of atresia ani vaginalis. Several slight modifications, which have been found to make the operation easier and which yield a better final result, are demonstrated. The film also demonstrates the proper technique of using a closed method of anesthesia in pediatric surgery. Sound, 23 minutes.

Observation of Human Ovulation by the Pelviscope.

JOSEPH BERNARD DOYLE, Boston.

The observation of human ovulation by the pelviscope via culdotomy prior to denervation of the uterus and tubes is described. The tubal peristalsis is described in detail. Biopsy of precisely dated one hour corpus luteum is done and described. Sound, 13 minutes, with discussion by author.

Responses of Psychotic Patients to Reserpine (Serpasil).

ROBERT H. NOCE and DAVID B. WILLIAMS, Modesto, Calif., and WALTER RAPAPORT, Sacramento, Calif.

This motion picture illustrates the marked therapeutic effectiveness of intravenously given reserpine, which was administered to two very disturbed psychotic patients, one a 55-year-old paretic and the other a 57-year-old male paranoid schizophrenic. Sound, 10 minutes.

Congenital Absence of the Vagina and Its Treatment.

JOSEPH GASTER, Beverly Hills, Calif.

This is a presentation of two cases showing the embryology and anatomy with films taken before, during, and after operation. Both patients had rudimentary uteri, and one patient had a fibroid tumor on a rudimentary uterus. Sound, 25 minutes, with discussion by author.

Ocular Bacteriology: Its Application to Clinical Practice.

JAMES H. ALLEN, New Orleans.

This film shows a panel of six ophthalmologists participating in a panel discussion of bacteriology of the eye. It covers bacteriological examination of the lids and lacrimal apparatus, conjunctival lesions, intraocular inflammations and infections, orbital infections, and examination of ocular allergies. Sound, 40 minutes.

Mycosis Fungoides.

MARVIN N. SOLOMON, Brooklyn, N. Y.

The historical, pathological, and clinical aspects of this type of malignant lymphoma is reviewed along with the therapy. The histological criteria of diagnosis are presented with the aid of photomicrographs. The various clinical types and differential diagnosis of the disease are presented as well as a review of a case with a four year follow-up study. Sound, 15 minutes.

Ventricular Control by An External Artificial Pacemaker for Seven Days with Recovery.

ALBERT H. DOUGLAS and WILLIAM P. WAGNER, Jamaica, N. Y.

A patient with ventricular asystole associated with A-V dissociation was maintained by an artificial pacemaker applied to the intact chest wall for seven days. The film shows the pacemaker in operation, a Stokes-Adams attack when it is turned off, and illustrative electrocardiograms. Ultimately the combined use of epinephrine and barium made it possible to dispense with the pacemaker. The therapy is reviewed, and the recovery of the patient is demonstrated. Silent, 14 minutes, with discussion by author.

Megacolon (Hirschsprung's Disease) Abdominoperineal Rectosigmoidectomy.

HARRY E. BACON, Philadelphia.

The film is chiefly a presentation of the author's technique in removing the dysfunctioning rectum of Hirschsprung's disease and transplanting the normal sigmoid colon to the anus, where it is anastomosed by end-to-end technique to the normal rectum. A typical case is described with radiographic studies. A follow-up resume indicates the success of the operation and return of bowel movements to normal regularity. Silent, 30 minutes, with discussion by author.

Amyotrophic Lateral Sclerosis in the Mariana Islands.

LEONARD T. KURLAND and DONALD W. MULDER, Rochester, Minn.

This film demonstrates the clinical and pathological features in several patients and reveals that the disorder observed has a high familial incidence and yet is a classical form of the disease. Progressive muscular atrophy and progressive bulbar palsy, as clinical components of amyotrophic lateral sclerosis, are illustrated. Electromyographic records are demonstrated. The absence of any effect of the disease on pregnancy and the failure of pregnancy to influence the disease are also demonstrated. Sound, 19 minutes, with discussion by author.

The Mammalian Thymus.

VAUGHAN P. SIMMONS, Milwaukee.

The film demonstrates the gross and microscopic appearance of the thymus in adult mice, rats, cats, dogs, guinea pigs, rabbits, and human beings and the same in a 150 lb. calf. Tissue often appearing grossly as fat in situ is demonstrated to be thymus, using special techniques. The necessity of considering the thymus as a functional organ throughout life is stressed. Sound, 35 minutes, with discussion by author.

Cancer of the Thyroid: Treatment of a Case by Radioactive Iodine.

AMERICAN MEDICAL ASSOCIATION, Chicago.

This film shows the diagnosis and management of a case of carcinoma of the thyroid with metastasis to the hip and its treatment with radioactive iodine. Sound, 7 minutes.

The Eye, Reel V of the Autonomic Nervous System.

J. E. MARKEE, R. FRED BECKER, and MAUDE F. WILLIAMS, Durham, N. C.

By means of drawings, dissections, and animations, the sympathetic and parasympathetic innervation of the eye are demonstrated. The reflexes concerned with pupillary constriction and accommodation are illustrated, as are also the effects of the third nerve paralysis and Horner's syndrome. Sound, 19 minutes, with discussion by author.

Anorectal and Sigmoidoscopic Examination with Differential Diagnosis.

MALCOLM R. HILL, Los Angeles.

The purpose of this film is to emphasize the importance of anorectal and colonic examination, to show the simplicity with which it may be done, and to demonstrate the technique essential to an effective routine. Sound, 30 minutes.

Fractures About the Wrist and Hand.

VETERANS ADMINISTRATION.

The United States Army Portable X-ray Unit.

LAWRENCE H. KROHN and WILLIAM W. COX, Fort Knox, Ky.

This film describes the new portable x-ray unit utilizing an isotopic (thulium-170) radiation source with a self-processing cassette. Details as to the ease of portability and operation in the field are shown. There is a demonstration of the unit in use in the battlefield and in a civilian disaster area. Silent. 15 minutes.

Nephroureterectomy by Anterior Abdominal Retroperitoneal Approach.

HENRY BODNER, ALLAN H. HOWARD, and JOSEPH H. KAPLAN, Los Angeles.

An anterior abdominal retroperitoneal approach to the kidney is shown. A nephroureterectomy is done through this type of incision. In this manner, two incisions are obviated. Sound, 12 minutes, with discussion by author.

Tetralogy of Fallot.

JOHN C. JONES, Los Angeles.

Explains the anatomic features of tetralogy of Fallot and shows the two types of shunting operations that are generally performed to supplement the inadequate flow of blood to the lungs. Sound, 30 minutes.

SPECIAL EVENING FILM PROGRAM

HADDON HALL, VERNON ROOM

Wednesday, June 8—8 p. m.

A Motion Picture Symposium on Hernia

WARREN H. COLE, Chicago, Moderator.

Surgical Anatomy of the Inguinal Region.
JOESPH MARKEE, Durham, N. C.

Indirect Hernia. I. MIMS GAGE, New Orleans.

Direct Hernia. LAWRENCE FALLIS, Detroit.

Repair of Ventral Hernia with Surgalloy Steel Mesh.
KENNETH SAWYER, Denver.

Rectus Sheath and Skin Graft for Direct Hernia.
PHILIP THOREK, Chicago.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located on the lower level of Convention Hall, with entrances by stairway or elevator from the main floor or from the taxicab driveway on the lower level.

The 21 sections of the Scientific Assembly have arranged groups of exhibits dealing with their respective specialties in medicine. As in former years, however, emphasis is not placed on the interest of the specialist, but rather upon the general interest of all physicians. Several sections have organized interesting features, including the 50th anniversary of organized anesthesia by the Section on Anesthesiology, pulmonary function testing by the Section on Diseases of the Chest, teaching in general practice and physical examinations for physicians by the Section on General Practice, and fresh tissue pathology by the Section on Pathology and Physiology. The Section on Urology will discuss the exhibits in that section at certain designated hours. The Section on Military Medicine is presenting a flying infirmary on the beach in front of the Convention Hall.

Other features arranged by the Council on Scientific Assembly include the special exhibit on fractures, exhibit symposiums on arthritis and diabetes, a question and answer conference on diabetes, and a general information center designated as Queries and Minor Notes.

The Scientific Exhibit will open at 8:30 a. m., Monday, June 6, and will close at 12:00 noon, Friday, June 10. On the intervening days the hall will be open from 8:30 a. m. to 5:30 p. m.

Admission to the Scientific Exhibit will be limited to those persons wearing one of the official badges of the convention.

Special Exhibit on Fractures

The Special Exhibit on Fractures is presented under the auspices of the following Committee:

RALPH G. CAROTHERS, Cincinnati, Chairman.
HERBERT VIRGIN JR., Miami Fla.
HARRY B. HALL, Minneapolis.
KELLOGG SPEED, Chicago, emeritus.
GORDON M. MORRISON, Boston, emeritus.

Demonstrations will be conducted continuously each morning and afternoon during the meeting in each of five booths.

Fractures Encountered by the Front Seat Passenger in an Automobile Crash.

Fractures of the Ankle.

Supracondylar Fracture of the Humerus.

Fracture of the Carpal Navicular.

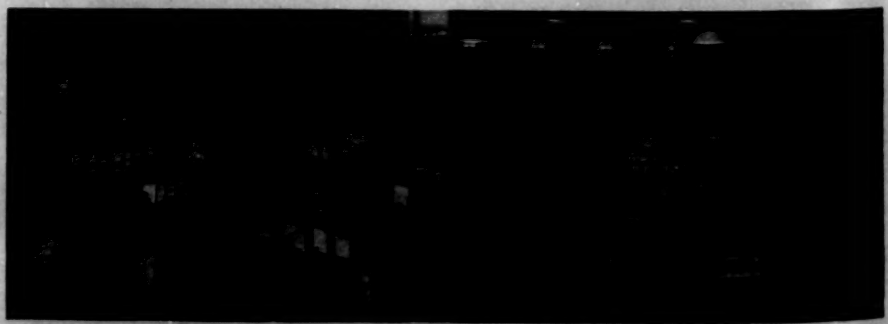
Fracture of the Lower End of the Radius.

The demonstrations will stress elementary points in the treatment of fractures, based on the pathology of each type of fracture. The purpose of the exhibit is the instruction of the physician in general practice. A pamphlet presenting the essential features of the exhibit will be available for distribution.

The following demonstrators will assist the Committee in the presentation of the exhibit:

ROY E. BRACKIN, Winnetka, Ill.
MILTON C. COBEY, Washington, D. C.
WILLIAM MCDANIEL EWING, Louisville, Ky.

Demonstration (left) of Fracture of the Carpal Navicular and (right) of Compression Fracture of the Spine, Scientific Exhibit, Atlantic City, 1951.



Fiftieth Anniversary of the Scientific Exhibit, Atlantic City, 1949.

ALEXANDER GARCIA, New York.
MAURICE GERSHMAN, Far Rockaway, N. Y.
HAROLD T. HANSEN, South Orange, N. J.
CHARLES V. HECK, Chicago.
WILLIAM J. KISIEL, Springfield, Mass.
WILLIAM G. KUHN JR., New Brunswick, N. J.
WILLIAM N. LANIGAN, Medford, Mass.
J. WHITFIELD LARRABEE, Hartford, Conn.
J. VERNON LUCK, Los Angeles.
WALTER D. LUDLUM JR., New York.
SYDNEY N. LYTTLE, Flint, Mich.
J. EARL MILES, Brooklyn, N. Y.
JOHN J. MILROY, Waukegan, Ill.
WILLIAM R. MOLONY JR., Los Angeles.
EDMUND T. RUMBLE JR., Callicoon, N. Y.
WILLIAM J. STEWART, Columbia, Mo.
S. RALPH TERHUNE, Birmingham, Ala.

Queries and Minor Notes

This is a new feature presented by the various sections of the Scientific Assembly where physicians who have special problems may confer with experts. At certain hours each day consultants in the various specialties will be on duty to advise and answer questions.

The attendant in charge will be G. S. COOPER, Editorial Department, American Medical Association. Among the consultants who will be on duty are the persons listed below.

Monday, June 6

9:00 a. m. **General Practice.** HERBERT L. HARTLEY, Seattle.
Pediatrics. OLIVER L. STRINGFIELD, Stamford, Conn.
Surgery. ROBERT M. ZOLLINGER, Columbus, Ohio.

10:30 a. m. **Experimental Medicine and Therapeutics.** GEORGE E. BURCH, New Orleans, and BELTON BURROWS, Boston.
Laryngology, Otology and Rhinology. PETER M. PASTORE, Richmond, Va.
Nervous and Mental Diseases. JOSEPH P. EVANS, Cincinnati.
Radiology. RICHARD H. CHAMBERLAIN, Philadelphia.

1:30 p. m. **Dermatology and Syphilology.** SAMUEL M. BLUEFARB, Chicago.
Gastroenterology. J. A. BARGEN, Rochester, Minn., and J. B. KIRSNER, Chicago.
Obstetrics and Gynecology. N. J. EASTMAN, Philadelphia.
Orthopedic Surgery. J. VERNON LUCK, Los Angeles, and EDWARD L. COMPERE, Chicago.
Physical Medicine. ROBERT L. BENNETT, Warm Springs, Ga.
Urology. ROGER W. BARNES, Los Angeles.

3:00 p. m. **Anesthesiology.** SCOTT M. SMITH, Salt Lake City.
Internal Medicine. ALBERT M. SNELL, Palo Alto, Calif., and CHESTER M. JONES, Boston.
Ophthalmology. IRVING H. LEOPOLD, Philadelphia.
Pathology and Physiology. D. H. KAUMP, Detroit.
Preventive and Industrial Medicine and Public Health. IRVING R. TABERSHAW, New York.

Tuesday, June 7

9:00 a. m. **General Practice.** FREDERICK EWENS, Manhattan Beach, Calif.
Surgery. WALTER G. MADDOCK, Chicago.
Experimental Medicine and Therapeutics. JAMES HALSTED, Syracuse, N. Y., and FRANZ J. INGELFINGER, Boston.

10:30 a. m. **Nervous and Mental Diseases.** F. J. BRACELAND, Hartford, Conn.
Laryngology, Otology and Rhinology. LAWRENCE R. BOIES, Minneapolis.
Radiology. ROBERT P. BARDEN, Philadelphia.

1:30 p. m. **Dermatology and Syphilology.** ROBERT R. KIERLAND, Rochester, Minn.
Proctology. J. P. NESSELROD, Evanston, Ill.
Obstetrics and Gynecology. MORRIS DAVIS, Chicago.
Orthopedic Surgery. FREDERICK R. THOMPSON, New York, and J. ALBERT KEY, St. Louis.
Physical Medicine. ARTHUR L. WATKINS, Boston.
Urology. HUGH JEWETT, Baltimore.

3:00 p. m. **Anesthesiology.** JOHN S. LUNDY, Rochester, Minn.
Internal Medicine. A. CARLTON ERNSTENE, Cleveland, and BENJAMIN J. BAKER JR., Baltimore.
Ophthalmology. WILLIAM C. OWENS, Baltimore.
Pathology and Physiology. FRANCIS C. COLPMAN, Des Moines, Iowa.
Pediatrics. F. A. DISNEY, Rochester, N. Y.
Preventive and Industrial Medicine and Public Health. ROBERT A. KEHOE, Cincinnati.

Wednesday, June 8

9:00 a. m. **General Practice.** M. B. CASEBOLT, Kansas City.
Pediatrics. WYMAN C. C. COLE, Detroit.
Surgery. JOHN D. STEWART, Buffalo, N. Y.

10:30 a. m. **Experimental Medicine and Therapeutics.** STUART C. FINCH, New Haven, Conn., and JOSEPH F. ROSS, Los Angeles.
Laryngology, Otology and Rhinology. HENRY L. WILLIAMS, Rochester, Minn.
Nervous and Mental Diseases. F. M. FORSTER, Washington, D. C.
Radiology. BARTON R. YOUNG, Philadelphia.

1:30 p. m. **Dermatology and Syphilology.** J. WALTER WILSON, Los Angeles.
Gastroenterology. E. E. WOLLAEGER and WILLIAM H. DEARING, Rochester, Minn.
Obstetrics and Gynecology. BAYARD CARTER, Durham, N. C.
Orthopedic Surgery. WILLIAM T. GREEN, Boston, and H. RELTON MCCARROLL, St. Louis.

Physical Medicine.
KEITH C. KEELER, Akron, Ohio.

Urology.
ROGER C. BAKER JR., Washington, D. C.

3:00 p. m. **Anesthesiology.**
RALPH S. SAPPENFIELD, Miami, Fla.

Internal Medicine.
TRUMAN G. SCHNABEL, Philadelphia, and LAWRENCE E. YOUNG, Rochester, N. Y.

Ophthalmology. FRANK B. WALSH, Baltimore.

Pathology. HAROLD D. PALMER, Denver.

Thursday, June 9

9:00 a. m. **General Practice.**
RICHARD C. MILLS, Fort Lauderdale, Fla.

Surgery. JOHN H. MULHOLLAND, New York.

10:30 a. m. **Experimental Medicine and Therapeutics.**
WILLIAM PARSON, Charlottesville, Va., and MONTE GREER, Bethesda, Md.

Laryngology, Otology and Rhinology.
FRANCIS C. DAVISON, Danville, Pa.

Nervous and Mental Diseases.
KARL O. VON HAGEN, Los Angeles.

Radiology. ARTHUR FINKELSTEIN, Philadelphia.

1:30 p. m. **Dermatology and Syphilology.**
GEORGE M. LEWIS, New York.

Proctology. J. P. NESSELROD, Evanston.

Obstetrics and Gynecology.
T. L. MONTGOMERY, Philadelphia.

Orthopedic Surgery.
JESSE T. NICHOLSON, Philadelphia, and CHARLES N. PEASE, Chicago.

Physical Medicine.
A. RAY DAWSON, Richmond, Va.

Urology. HAROLD P. MCDONALD, Atlanta, Ga.

3:00 p. m. **Anesthesiology.**
LEO J. FITZPATRICK, West Englewood, N. J.

Internal Medicine.
CHARLES T. STONE SR., Galveston, Texas.

Ophthalmology. JOSEPH S. HAAS, Chicago.

Pathology and Physiology.
JOHN R. SCHENKEN, Omaha.

Pediatrics. E. ROBBINS KIMBALL, Evanston, Ill.

Preventive and Industrial Medicine and Public Health. EDWARD P. LUONGO, Los Angeles.

Friday, June 10

9:00 a. m. **General Practice.** A. H. HORLAND, Newark, N. J.

Pediatrics. F. THOMAS MITCHELL, Memphis.

Surgery. JOHN B. FLICK, Philadelphia.

10:30 a. m. **Experimental Medicine and Therapeutics.**
WILLIAM MULLER JR., Charlottesville, Va., and ROBERT D. TAYLOR, Milwaukee, Wis.

Nervous and Mental Diseases.
A. EARL WALKER, Baltimore.

Radiology. J. STAUFFER LEHMAN, Philadelphia.

Exhibit Symposium on Arthritis and Rheumatism

The exhibit symposium on arthritis and rheumatism has been arranged by DONALD F. HILL, Tucson, Ariz., with the cooperation of members of the American Rheumatism Association and the Arthritis Foundation.

Adult Spondylitis.

RICHARD H. FREYBERG, BERNARD ROGOFF, and FRANCIS MCCOY, New York.

The exhibit shows the incidence, clinical characteristics, laboratory features (emphasizing roentgenographic appearance) recognition, differential diagnosis, therapy, and prognosis of rheumatoid spondylitis (ankylosing spondylitis, Strumpell-Marie disease) and osteoarthritis of the spine.

Rheumatoid Arthritis.

DWIGHT C. ENSIGN and JOHN W. SIGLER, Henry Ford Hospital, Detroit, Mich., and DONALD F. HILL and W. PAUL HOLBROOK, Tucson, Ariz.

The importance of early and accurate diagnosis of rheumatoid arthritis is emphasized as a basis for adequate therapy. The salient features of diagnosis and differential diagnosis are presented. Photographs and roentgenograms depict characteristic features of the various stages of the disease. A comprehensive program of therapy is outlined, including the education of the patient in the nature of his disease, the use of general therapeutic measures of proved value, and the necessity of balanced rest and corrective exercises. Supplemental measures (gold salts, steroids, etc.) are presented. Photographs illustrate the usefulness of splints and other rest measures and simple devices to aid in daily activities.

Juvenile Rheumatoid Arthritis.

ROBERT E. BARKIN, THEODORE A. POTTER, J. SYDNEY STILLMAN JR., and THEODORE B. BAYLES, Robert Breck Brigham Hospital, Boston.

The clinical course of juvenile rheumatoid arthritis in 51 cases, studied and followed at the Robert Breck Brigham Hospital, Boston, is presented, with special attention to differential diagnosis, age of patient, type of onset, complications, and analysis of history of rheumatoid arthritis in children. The high incidence of spinal involvement in juvenile rheumatoid arthritis studied in 75 cases is emphasized.

What Is Osteoarthritis?

BERNARD M. NORCROSS, WILLIAM H. GEORGI, and SALVATORE R. LATONA, University of Buffalo School of Medicine, Buffalo.

The known factors in the pathogenesis and illustrations of the pathological changes of osteoarthritis are presented. The most frequent and important joints involved by this condition are demonstrated by photographs, reproductions of roentgenograms, and posters. Emphasis is placed on the differential diagnosis of osteoarthritis from other painful musculoskeletal conditions involving the spine. The presence of a few osteophytes does not of necessity make the diagnosis of osteoarthritis of the spine. Therapeutic measures of recognized value are discussed, and several physical therapy methods for specific lesions of osteoarthritis will be demonstrated.

Anatomical Studies of the Joints.

ARTHUR M. PRUCE, JAMES A. MILLER, I. R. BERGER, and ALBERT J. LANSING, Emory University School of Medicine, Atlanta, Ga.

The exhibit correlates anatomic dissections of each of the major articulations with x-ray studies. Needles in situ, charts, and diagrams demonstrate the simplest techniques for joint paracentesis.

Gout and Gouty Arthritis.

L. MAXWELL LOCKIE, JOHN H. TALBOTT, and CHARLES BISHOP, University of Buffalo School of Medicine and the Buffalo General Hospital, Buffalo.

The diagnosis of gout and gouty arthritis is outlined. Treatment for the acute attack and for the period following the acute attack is given in detail. A new method of treatment will be of interest to physicians. In addition, a detailed description of the formation of uric acid molecules is shown in sketch form.

Prednisone in the Treatment of Rheumatic Disease.

RUSSELL L. CECIL and WILLIAM H. KAMMERER, New York Hospital and Hospital for Special Surgery, New York.

This exhibit consists of charts, graphs, and photographs demonstrating the physiological and striking therapeutic effect of a new steroid hormone in rheumatoid arthritis and other rheumatic diseases. Prednisone is a synthetic steroid that possesses the physiological activity of an adrenocortical hormone. Its antirheumatic effect has been demonstrated to be much superior to that of cortisone or hydrocortisone, and physiological

side-effects up to the present time have been minimal. Charts and graphs show the effect of this hormone upon various clinical and laboratory aspects of rheumatic disease, such as blood morphology, sedimentation rate, total eosinophil count, 17-ketosteroid excretion, blood electrolytes, etc. Photographs of the affected joints will demonstrate the clinical improvement.

Physical Medicine in the Treatment of Arthritis.

EDWARD W. LOWMAN, American Rheumatism Association, New York.

The exhibit presents prophylactic measures for prevention of joint deformity and muscle atrophy together with methods for applying physical therapy in the home. A remedial exercise program will be demonstrated with the assistance of a physical therapist.

Information About Rheumatism.

DONALD F. HILL, Tucson, Ariz., American Rheumatism Association and Arthritis and Rheumatism Foundation.

The American Rheumatism Association and Arthritis and Rheumatism Foundation will present material and give information necessary in the formation of arthritis clinics, professional, and lay organizations. Pamphlets, booklets, and other material on arthritis sponsored by the organization will be available.

Specific Infectious Arthritis.

EDWARD F. HARTUNG, American Rheumatism Association, New York.

The exhibit deals with specific infectious arthritis, giving statistics that show that gonorrheal arthritis has markedly decreased and statistics on the incidence of tuberculous arthritis, which is still a problem. The exhibit outlines the diagnosis and treatment of tuberculous arthritis. There are x-rays of the two types of tuberculous arthritis, the osteosclerotic and the osteolytic type, and a transparency of a biopsy specimen taken from a tuberculous joint.

Exhibit Symposium on Diabetes

The exhibit symposium on diabetes has been arranged by HOWARD F. ROOT, Boston, with the assistance of members of the American Diabetes Association.

The question and answer conference is conducted in conjunction with the exhibit symposium.

Management of Diabetes Mellitus.

WILLIAM R. KIRTLEY and HENRY B. MULHOLLAND, American Diabetes Association.

Essentials of diabetic management are outlined and objectives in control discussed. Insulin therapy is included, and methods of determining the proper dosage and the proper type of insulin in relation to the patient's needs are outlined. Simplified diet plan methods are presented.

Today's Great Imitator, Diabetes Mellitus.

JAMES M. MOSS and DEWITT E. DE LAWTER, Georgetown University School of Medicine, Washington, D. C.

Diabetes affects every organ in the body to produce a wide variety of symptoms. One-third of the patients have typical symptoms and one-third have no symptoms, but the other third have unusual symptoms that cause the undiagnosed diabetic to first consult a physician. It is apparent that every physician should perform a routine urinalysis on every patient.

Diabetes: Blood Sugar Screening in the Physician's Office.

ARNOLD B. KURLANDER, Washington, D. C., and HUGH L. C. WILKERSON, Boston, U. S. Department of Health, Education, and Welfare, Public Health Service.

Three-dimension motion pictures show the actual performance of the test for blood sugar screening in the physician's office. The equipment is used for earphones.

Diabetes Today.

HOWARD F. ROOT, ELLIOTT P. JOSLIN, PRISCILLA WHITE, ALEXANDER MARBLE, ALLEN P. JOSLIN, ROBERT F. BRADLEY and LEO P. KRALL, Joslin Clinic, Boston.

The exhibit presents new data on incidence of cancer, incidence of patients with diabetes exceeding 35 years in duration, the octogenarian diabetic, pregnancy, diabetic coma and its treatment, simplified methods of patient education, changing causes of death, and simplified differential diagnostic methods in coma. Laboratory data on the influence of acidosis upon glycogen deposition in muscle and liver and also data on protein distribution by paper chromatography in diabetes are included.

Question and Answer Conference on Diabetes

Diabetes mellitus and its treatment will be the subject of a series of question and answer periods in Space 1225 under the direction of HOWARD F. ROOT, Boston. Beginning at 10:00 a. m., Monday through Friday, a series of talks will be given by physicians whose names will be announced in the Official Program. Panel discussions will be conducted in the same room at 12:30 p. m. Monday through Thursday.

Monday, June 6

10:00 a. m. **Question and answer period.**

12:30 p. m. **Panel on What Is the Nature of Diabetes Mellitus?**
PRISCILLA WHITE, ALEXANDER MARBLE and HOWARD F. ROOT, Boston, and ARTHUR R. COLWELL, Chicago.

Tuesday, June 7

10:00 a. m. **Question and answer period.**

12:30 p. m. **Panel on Problems in the Management of Diabetic Pregnancy and the Influence of Heredity.**
HENRY MULHOLLAND, Charlottesville, Va., and PRISCILLA WHITE and HOWARD F. ROOT, Boston.

Wednesday, June 8

10:00 a. m. **Question and answer period.**

12:30 p. m. **Panel on Diet and Insulin in the Treatment of Diabetes and Its Complications.**
ELLIOTT P. JOSLIN and ROBERT F. BRADLEY, Boston, and GEORGE F. SCHMITT, Miami, Fla.

Thursday, June 9

10:00 a. m. **Question and answer period.**

12:30 p. m. **Panel on the Management of Diabetic Emergencies.**
ELLIOTT P. JOSLIN and LEO P. KRALL, Boston, and JAMES M. MOSS, Washington, D. C.

Friday, June 10

10:00 a. m. **Question and answer period.**

Section on Anesthesiology

The Section on Anesthesiology is emphasizing the 50th anniversary of organized anesthesia. The representative to the Scientific Exhibit is SCOTT M. SMITH, Salt Lake City.

Roswell Park Respirator.

J. O. ELAM and CLINTON D. JANNEY, Roswell Park Memorial Institute, Buffalo.

Mechanical artificial respiration is advantageous in selected patients during anesthesia. The device exhibited is designed to insure that an adequate tidal volume is delivered to the lungs. Ventilatory devices that cycle at preset airway pressures may in the presence of increased airway resistance fail to deliver adequate volumes. Devices that deliver a measured, fixed volume will produce whatever airway pressure range is required to move the gas volume. A fixed volume respirator has been developed in which the range of airway pressures generated can be shifted to positive pressure only, negative pressure only, or a range of both positive and negative pressure. Volumes delivered range from 400 cc. to 2,000 cc., respiratory rates from 4 to 40 minutes, and relative duration of inspiration and expiration may be independently altered. Such a device may be used wherever an unconscious patient requires prolonged artificial respiration.

Fifty Years of Organized Anesthesia.

ALBERT M. BETCHER, BENJAMIN J. CILIBERTI, PAUL M. WOOD, and LEWIS H. WRIGHT, New York.

The exhibit includes charts of the organizations in anesthesiology beginning with the inceptive minutes of the Long Island Anesthesia Society in 1905 to the present status of anesthesia societies. It traces the origins of the American Board of Anesthesiology, the American College of Anesthesiologists, the residency training programs, medical school curriculums, and establishment of the Library Museum. In addition, anesthetic agents, equipment, and publications that developed during these 50 years are to be displayed and demonstrated together with especially illustrated material of interest to anesthesiologists.

Prophylaxis of Nonhemolytic Transfusion Reactions: Value of Pyribenzamine.

C. R. STEPHEN, RUTH C. MARTIN, and M. BOURGEOIS-GAVARDIN, Duke Hospital, Durham, N. C.

The exhibit shows types of reaction to blood transfusion. It portrays graphically the incidence of various type reactions in 1,515 control patients and compares these numerically with a similar series in which pyribenzamine was administered with the blood prophylactically. The pharmacological means whereby antihistamine drugs protect against reactions are demonstrated.

The Hospital Coding Service and Medical Audits.

LUCIEN E. MORRIS, University of Washington School of Medicine, Seattle, and WILLIAM J. EMANUEL, University Hospitals, Iowa City.

This exhibit depicts the advantages of an adequate extraction and collection of data from patients' hospital records and subsequent utilization of that data by coding, collating, cross correlating, sorting, and tabulating through use of available business machines. Coding is done from summary sheets using the World Health Organization Codes and auxiliary codes of the American Society of Anesthesiologists, including a new and complete code of operations. Data coded for possible correlated use and tabulation include age, sex, diagnoses, procedures performed, results, complications drugs used, causes of death, etc. The system offers the opportunity of comparison of work done and results obtained in individual hospitals, diverse areas of the country, or even countries of the world, since the codes used are already international in character.

The Automatic Maintenance of Anesthesia.

M. JACK FRUMIN, the Columbia-Presbyterian Medical Center, New York.

The autoanesthetron is an anesthetic apparatus that automatically provides artificial ventilation with a 3:1 nitrous oxide-oxygen mixture in subjects rendered apneic with succinylcholine, a synthetic muscle relaxant. The depth of respiration is automatically controlled by the carbon dioxide concentration in the expired air. The rate of administration of succinylcholine is semiautomatically controlled. The arterial pressure is monitored by a new mechanical device. During the exhibit the autoanesthetron will respire an artificial lung in a manner analogous to the respiration of patients during operation. The exhibit also includes charts showing the effect of the autoanesthetron upon the blood tension of oxygen, carbon dioxide, and pH during operations.

Anesthesia Case Records for Teaching.

S. G. HERSHEY, EDWIN EMMA, and BARBARA LIPTON, Beth Israel Hospital, New York.

The exhibit illustrates a method for selecting, classifying, and utilizing anesthesia case records for use in a resident training program. The selected case records are photographed and filed as 35 mm. slides. The procedure and equipment for preparation of this slide file are shown. There is also a graphic presentation of the processing of one such case from the operating table through the projection of the finished slide onto a screen in the classroom.

Silent Regurgitation and Aspiration During Operation.

JOHN ADRIANI, WILLIAM L. BERSON, and MORTON PHILLIPS, Louisiana State University School of Medicine and Charity Hospital, New Orleans.

The exhibit summarizes a study of the incidence of silent regurgitation and aspiration during general anesthesia on 1,000 patients. Silent regurgitation occurs most frequently when difficulty is encountered with induction and maintenance of anesthesia. The incidence is highest in patients with a stomach tube in place, in those who are operated upon in the head up position, in patients who are intubated for endotracheal anesthesia. The incidence of regurgitation in the head down position is average, in the lateral position above average, in the head up supine position above average. The incidence with cyclopropane and pentothal is considerably below average, that with nitrous oxide or ethylene followed by ether greater than average, and that with nitrous oxide pentothal and muscle relaxants greater than average. Methods of prevention are emphasized. The morbidity following aspiration in these cases is also shown.

Epidural Anesthesia for Cesarean Section.

F. E. GROSSMAN, I. M. PALLIN, and I. WACHTEL, Jewish Hospital of Brooklyn, Brooklyn, N. Y.

The exhibit includes charts and diagrams showing the anatomy of the epidural space, the physiology of the epidural space, description of the epidural technique, the advantages and disadvantages of the epidural anesthesia for cesarean section, and results of 100 cases of cesarean sections done under epidural anesthesia. A moulage demonstrating the above, with an opportunity for visitors to try an epidural puncture, is shown.

Blood Volume Determinations for Anesthesia.

C. E. WASMUTH and OTTO GLASSER, Cleveland Clinic, Cleveland.

Blood volume determinations are a valuable guide in the preanesthetic evaluation of the surgical patient. Utilizing the radioactive iodinated human serum albumin technique, accurate, rapid, and repeated blood volume determinations can be made. The anesthesiologist and surgeon no longer need to rely on concentration of hemoglobin or hematocrit to infer a volumetric determination of blood volume.

Recent Advances in Local Anesthetic Agents.

F. PAUL ANSBRO, ALBERT E. BLUNDELL, and JOSEPH C. SWEENEY JR., Brooklyn, N. Y.

Four recently synthesized local agents have been tried on the basis of the five principles governing the utility of these agents in anesthesia, namely, (1) potency, (2) speed of onset, (3) spread in the tissues, (4) duration of action, and (5) toxicity. Each agent was used in maximum therapeutic amount in effecting epidural anesthesia, and their relative merits were judged by the five criteria listed. Charts and graphs depict each agent as it compared with the others in fulfilling the five criteria.

Circle Absorber Efficiency.

ELWYN S. BROWN and PAUL ZUCKERMAN, Roswell Park Memorial Institute, Buffalo.

The accumulation of carbon dioxide and the resulting respiratory acidosis during anesthesia may result from inadequate removal of carbon dioxide in closed circle absorbers. The exhibit presents graphically the time efficiency of several commonly used circle absorbers. A reversible canister design that has a longer time efficiency and that affords a more complete exhaustion of the carbon dioxide absorbent has been developed and is compared with presently available designs.

Technique of Nitrous Oxide-Oxygen-Alphaprodine Anesthesia.

IRVING M. RIFFIN, Upper Montclair, N. J.

This exhibit describes the technique and advantages of the use of alphaprodine as a supplement to nitrous oxide anesthesia. A dummy operating scene is depicted with an actual anesthesia machine and intravenous drip apparatus in place. Emphasis is placed on the practical value of this technique in general surgery and of the methodology involved.

Controlled Analgesia with Continuous Drip Meperidine.

H. M. AUSHERMAN, W. K. NOWILL, and R. C. MARTIN, Duke Hospital, Durham, N. C.

For several years meperidine, given by intermittent or repeated dosage, has been recognized to be of value in providing potent analgesia during general anesthetic procedures. This exhibit shows the advantages of administering this drug as a continuous or intermittent dilute drip in a concentration of 9.5 mg. per cubic centimeter, usually in conjunction with pentothal sodium and nitrous oxide. Experiences gained with 1,000 administrations are reviewed. Associated clinical investigations relate the alterations in oxygen consumption seen with moderate dosages. Determinations of pH concentrations and carbon dioxide tensions, performed in 30 patients, show to what degree respirations may be depressed in rate before respiratory acidosis occurs, unless ventilation is assisted by the anesthesiologist.

Mephentermine as a Vasopressor in Surgery and Obstetrics: A Clinical Evaluation.

ROBERT A. HINGSON, HAMILTON S. DAVIS, ROBERT LeLIEVRE, and CHARLES E. INMAN, University Hospitals of Cleveland, Cleveland.

The exhibit correlates the effects of mephentermine upon the blood pressure of both surgical and obstetric patients under anesthesia. When administered to a large number of patients it responded adequately in 74% of surgical cases and 86% of obstetric cases. The authors feel that mephentermine is an adequate and safe depressor for prophylactic and therapeutic use during anesthesia for surgery and obstetrics.

Section on Dermatology and Syphilology

The representative to the Scientific Exhibit from the Section on Dermatology and Syphilology is SAMUEL M. BLUEFARB, Chicago.

Erythema Nodosum.

LOUIS E. HARMAN JR. and ELSON B. HELWIG, Armed Forces Institute of Pathology, Washington, D. C.

The exhibit is a summary of the information obtained from the review of 74 clinical records and the histological study of the pathological features of erythema nodosum. Differential diagnoses are presented with histological representatives of each of these.

Skin Trauma Produced by Mechanical Scratching Machine.

RAYMOND GOLDBLUM, Pittsburgh; JOHN REISNER, Walter Reed Army Medical Center, Washington, D. C.; and WILLIAM N. PIPER, Santa Monica, Calif.

Since itching and subsequent scratching is probably the most common symptom in dermatological patients, the study of the effects of mechanical scratching of the skin was initiated with a scratching machine. The effect of time, number of strokes, and pressure were studied on various areas of the body. Lichenification was produced on normal patients and in atopic cases. The popliteal area was more susceptible to the formation of lichenification than the skin of the midback. Biopsies were taken before and after chronic scratching.

Keratoses of the Palms and Soles.

MAURICE J. COSTELLO and CONSTANCE MILLETTE BUNCKE, Bellevue, Lenox Hill, and St. Clare's Hospitals, New York.

The exhibit includes enlarged black and white photographs, with legends, of the keratoses of the palms and soles occurring either as a distinct entity or as part of a generalized dermatosis.

Contact Dermatoses in Color.

GEORGE E. MORRIS, Boston.

The exhibit consists of a series of Kodachromes picturing the common contact dermatoses that are seen, both in industry and outside of industry. A chart depicts the most common industrial eruptions seen in an analysis of 2,000 cases.

Structure and Dynamics of the Human Epidermis.

HERMANN PINKUS and CATHERINE HEISE STEELE, Detroit Institute of Cancer Research and Wayne University College of Medicine, Detroit.

The purpose of the exhibit is mainly didactic but includes some recent experimental data. Basic data on structure and biology of the human epidermis, many of them not easily available in the American literature, are summarized in the form of short slogans or sentences illustrated by enlarged photomicrographs, diagrammatic drawings, and curves. The material is arranged under the following headings: architecture, texture, cellular structure, embryology, symbiosis, biology, forced regeneration. The three-dimensional aspect of epidermal structure and the complicated mutual relations of its various constituent cells are emphasized.

Zinc Oxide: A New Microform, Pink Crystal.

BERNARD APPEL, Lynn, Mass.; LESLIE M. OHMART, Massachusetts College of Pharmacy, Boston; and ROBERT F. STERNER, Merck & Co., Rahway, N. J.

The exhibit is a study of a pure zinc oxide of extremely fine particulate size, so prepared that it possesses a naturally pink color that results from its peculiar physical structure. The exhibit will demonstrate the chemistry, physics, pharmaceutical preparation, and clinical experience.

Inoculation Syphilis in Human Volunteers.

SIDNEY OLANSKY, JOHN C. CUTLER, EVAN W. THOMAS, BERNARD I. KAPLAN, LOPO de MELLO, and HAROLD J. MAGNUSON, U. S. Department of Health, Education and Welfare, Public Health Service, Washington, D. C.

The exhibit shows the clinical responses to intracutaneous inoculation with the Nichols strain of Treponema pallidum in individuals never before syphilitic and in those previously treated for early infectious or later stages of syphilis. Photographs, tables, and charts indicate the clinical, serologic, and Treponema immunity response to preinoculation status.

Percutaneous and Oral Absorption of Vitamin A.

ALBERT EDWARD SOBEL, Jewish Hospital of Brooklyn, Brooklyn, N. Y.

Vitamin A absorption through the skin has been demonstrated in vitamin A deficient animals as shown by restoration of growth, vitamin A stores in liver and kidneys, and disappearance of xerophthalmia. The amount of "A" absorbed depends on the concentration of vitamin A and the vehicle employed. The skin of normal animals is about twice as effective in vitamin A transfer as vitamin A deficient animals. The histological changes due to A deficiency are restored to normal at the site of application but not in neighboring sites. The results will be compared to findings with oral administration of vitamin A in various mediums. Some possible application to dermatological disorders will be indicated.

Surgical Planing for Acne Scars—Dichloro-Tetrafluoro-Ethane (Freon 114): The Refrigerant-Anesthetic.

SAMUEL AYRES III, RALPH LUIKART II, and J. WALTER WILSON, University of Southern California School of Medicine, Los Angeles.

The exhibit describes the procedure of surgical planing for acne scars and other cutaneous defects by means of a motor driven rotating wire brush, aided by a refrigerant (dichloro-tetrafluoro-ethane) sprayed on the skin to render it temporarily rigid and locally anesthetized. This refrigerant's advantages over ethyl chloride are demonstrated. The rapid epidermal regeneration following surgical planing is shown in photomicrographs. Contraindications and complications are discussed, and abrasion by sandpapering is compared with surgical planing. The results of treatment are shown by clinical photographs.

The Limitations of the Therapy of Acne.

JAMES Q. GANT JR., George Washington School of Medicine, Washington, D. C.

This exhibit describes the limitations of certain therapeutic approaches currently in vogue in the management of acne. It is emphasized that at present there is no cure for acne and that only local palliative, symptomatic remission may be achieved. The basis for the different underlying etiological factors proposed for this disease and the more popular therapeutic approaches are discussed. What may be expected both pharmacologically and clinically from the different regimens is presented by means of photographs, charts, tables, and drawings.

Treatment of Haemangioma Chiefly by Irradiation.

GEORGE E. PFAHLER, Philadelphia.

The exhibit consists of Kodachrome slides, showing the conditions at the beginning of treatment and during various stages of recovery, with the dates listed on the slides, some of them many years after, together with some legends. Three projectors will be used. There will be available mimeographed copies describing briefly the technique and the necessary classification.

Microanatomy of the Epidermis and Its Appendages.

GEORGE HAMBRICK and HARVEY BLANK, Columbia University Medical Center, New York.

The exhibit consists of photomicrographs and drawings of recent observations of skin structures. With the aid of collagenase and other chemicals, the pilosebaceous and sweat duct structures have been prepared intact and examined in whole mounts as well as in vertical sections. Various aspects of these structures are illustrated as seen with histochemical techniques and with various types of microscopy.

Use of Fludrocortisone in Dermatoses.

R. C. V. ROBINSON, Baltimore City Hospitals and University of Maryland School of Medicine, Baltimore.

The effects of systemically administered and locally applied fludrocortisone (9α-fluorohydrocortisone) on dermatoses are described in photographs and charts. The activity of the drug is compared with that of hydrocortisone. Lotion and ointment are evaluated quantitatively and qualitatively.

Simplified Office Mycology.

HARRY M. ROBINSON JR., MORRIS M. COHEN, and EUGENE S. BERESTON, University of Maryland School of Medicine, Baltimore.

This exhibit consists of charts, Kodachromes, and a step by step method of procedure for the preparation, sterilization, utilization, and disposal of a culture medium for fungus infections. The entire procedure is simple and inexpensive and may be routinely conducted in the physician's office. A simple method of sterilization by the use of a home pressure-cooker is demonstrated. The Ink-KOH stain is prepared and demonstrated in the exhibit booth.

Electron Therapy in Skin Diseases.

MAGNUS I. SMEDAL, JOHN L. FROMER, DONAT P. CYR, and JOHN G. TRUMP, the Lahey Clinic, Boston, and KENNETH A. WRIGHT, Massachusetts Institute of Technology, Cambridge, Mass.

Electrons with controllable energies up to several millions of volts have unique properties for the treatment of skin diseases. The exhibit illustrates the physical properties of directed streams of electrons; compares their dose distribution below the skin with that of other radiation sources, such as beta rays and soft x-rays; and shows how electron therapy can be applied to the patient. Clinical results on extensive skin lymphomas (mycosis fungoides), atopic dermatitis, exfoliative dermatitis, keloids, and squamous cell carcinoma are illustrated.

Section on Diseases of the Chest

The representative to the Scientific Exhibit from the Section on Diseases of the Chest is EDWIN R. LEVINE, Chicago. The Section is also sponsoring the *Special Exhibit on Pulmonary Function Testing.*

Special Exhibit on Pulmonary Function Testing

The Special Exhibit on Pulmonary Function Testing is presented by the Section on Diseases of the Chest. The exhibit emphasizes practical problems in the establishment of a "lung station" suitable for a hospital or clinic, i. e., a laboratory designed to aid in diagnosis, prognosis, therapy, and the evaluation of disability in pulmonary disease in much the same manner that a "heart station" serves the needs of clinicians concerned with heart disease.

Emphasis is placed on equipment that is of low initial cost; that does not require extensive shop work to modify, assemble, and maintain; and that has withstood the test of time. Methods used are sufficiently simple to be mastered by physicians and technicians without long periods of specialized training and are rapid in the interest of adequate patient turnover. Previous training and the individual preference of the responsible physician are important factors in the selection of equipment and methods.

There will be actual demonstration of equipment by physicians experienced in pulmonary function testing. (The inclusion of any piece of commercially available apparatus in this exhibit does not necessarily constitute an endorsement of that particular piece in preference to a similar piece produced by another manufacturer.)

GEORGE R. MENEELY, Nashville, Tenn., is in charge of the exhibit, assisted by a large group of demonstrators.

Tuberculosis: A Therapeutic Problem.

JULIUS L. WILSON, American Trudeau Society, New York.

The exhibit consists of a panel showing the x-ray and pertinent case data for a tuberculous patient together with a list of 10 therapeutic procedures. When a viewer chooses the therapy he would use and pushes the corresponding button, a panel lights up revealing a brief comment on that choice by a consultant.

Resection for Pulmonary Tuberculosis in Children and Teen-Agers.

MORRIS RUBIN, SIDNEY MISHKIN, and RUTH LUBLINER, Seton Hospital, New York.

Pulmonary tuberculosis in children as in adults may produce irreversible lung damage or fail to respond to antimicrobial therapy. Since 1949 over 65 children with pulmonary tuberculosis were treated surgically. This exhibit summarizes six years' experience with resection. The indications, contraindications, surgical management, operative morbidity and mortality are presented. Transparencies show representative cases including sequential x-rays and the gross and microscopic pathology.

A Large-Scale Jury Review of Indications for Surgery in Pulmonary Tuberculosis.

JAMES D. MURPHY and JOHN E. RAYL, Veterans Administration Hospital, Oteen, N. C.

Representative films of 12 selected patients were sent to 50 thoracic surgeons and 50 thoracic internists with an abstract of the clinical history. These men were asked to give their choice as to the proper type of treatment for each patient. The exhibit displays the selected films and a consolidated report of the choice of treatment in each case.

Lymph Node Tuberculosis a Decisive Factor in Pulmonary Phthisis.

PH. SCHWARTZ, Warren State Hospital, Warren, Pa.

The exhibit includes pictures of the various types of fresh and old bronchial lesions induced by tuberculous lymph nodes and subsequent parenchymal and bronchial changes (parenchymal infiltrations, cavities, indurations, bronchial cicatrices, and tumors of the bronchial wall); original anatomic specimens of the above-mentioned lesions observed in Turkey, Germany, and the United States; histological slides; clinical x-ray pictures of cases of lymphadenobronchopneumonic pulmonary lesions confirmed by autopsy; and statistical data concerning the occurrence of lymphadenobronchopneumonic lesions in United States, Turkey, and Germany.

A New Intradermal Technique for Diagnostic Testing and Therapy.

HARRY CORPER, Denver, and HARRY SHUBIN, Philadelphia General Hospital, Northern Division, Philadelphia.

The exhibit shows a new method using a solid solution, or diagnostic material in methyl cellulose base, on the end of a pin, for tuberculin, histoplasmin, and other testing. It can also be used for therapy, especially for small doses. It is inexpensive, simple, immediately ready for use without making dilutions, and requires no syringes. Tuberculin and histoplasmin testing will be demonstrated.

The Transaortic Approach to the Problem of Aortic Stenosis.

WILLIAM K. SWANN, JACOB T. BRADSHER JR., THOMAS L. LOMASNEY, and JORGE A. RODRIGUEZ, Knoxville, Tenn.

The exhibit uses life size models and moulages to illustrate the approach to the aortic valve through the wall of the aorta with the aid of an artificial operative tunnel. Other reconstruction of surgical and autopsy specimens illustrate the pathology of aortic stenosis, the difficulty of its surgical correction, and certain safeguards that are necessary in order to do a safe operation and obtain a satisfactory result.

Congenital Anomalies of the Pulmonary Circulation: Diagnosis and Treatment.

ISRAEL STEINBERG and NATHANIEL FINBY, New York.

Conventional and angiocardiographic x-rays are used to illustrate the diagnosis and treatment of the following anomalies: (1) absent main branch pulmonary artery, including lung agenesis; (2) patent ductus arteriosus with reversal of shunt; (3) aberrant insertions pulmonary veins; (4) anomalous systemic arteries to lung; (5) pulmonary arteriovenous fistulas; (6) primary dilatation (aneurysm) pulmonary artery; (7) pulmonic stenosis (valvular and infundibular).

Inhalation Therapy.

ALBERT H. ANDREWS JR., Chicago, MAURICE S. SEGAL, Boston, and PETER A. THEODOS, Philadelphia.

The exhibit illustrates the indications and uses of inhalation therapy as a means to restore adequate function to organs impaired by lack of oxygen and to aid in the correction of interference with bronchopulmonary mechanisms. The abnormal physiology and principles of therapy are illustrated for anoxia, pneumonia, heart disease, pulmonary edema, gas retention, emphysema and fibrosis, bronchial obstruction, and bronchial asthma. Oxygen, helium, water vapor, pressure breathing, and bronchodilator aerosols are illustrated. The exhibit has been prepared by the committee on physiologic treatment of the Council on Research of the American College of Chest Physicians, with the cooperation of the respiration laboratory, St. Luke's Hospital, Chicago.

Prednisone in Bronchial Asthma, Pulmonary Emphysema, and Pulmonary Fibrosis.

ALVAN L. BARACH, HYLAN A. BICKERMAN, and GUSTAV J. BECK, Columbia-Presbyterian Medical Center, New York.

Clinical results of the use of prednisone in 80 patients with bronchial asthma and pulmonary emphysema included conspicuous relief of dyspnea, often within 24 to 48 hours; maintenance of remission in most cases on a regimen of 10 to 30 mg. daily; and absence of edema on a diet without salt restriction. The diminution of shortness of breath on exertion in pulmonary emphysema, with and without cor pulmonale, was conspicuous. Improvement in respiratory function tests was recorded. Of special interest was the finding of diminished dyspnea associated with diuresis and weight loss in some cases of pulmonary fibrosis.

The Surgical Treatment of Mitral Stenosis and Mitral Insufficiency.

DWIGHT E. HARKEN, HARRISON BLACK, and HUGH E. WILSON, Peter Bent Brigham Hospital, Boston.

Transparencies demonstrate the pathology of mitral stenosis and mitral insufficiency and the surgical technique for correcting these lesions, and charts demonstrate the differential diagnosis, the pre and postoperative care, and an analysis of results in a pilot study of our first 500 valvuloplasties. In addition, there are exhibit books containing illustrations that elaborate on the above subjects as well as describe miscellaneous cardiac procedures, including a new and rational approach to angina pectoris.

A Simple Operation for the Treatment of Coronary Insufficiencies.

S. A. THOMPSON and AARON PLACHTA, New York Medical College, Flower and Fifth Avenue Hospitals, New York, and M. S. MAZEL, Edgewater Hospital, Chicago.

The exhibit shows the pathology of coronary occlusion, as well as the technique of operation and how the procedure increases the blood supply of the myocardium by formation of a granulomatous pericarditis that acts as a source of collateral blood supply from the pericardial and epicardial regions.

Cardiovascular Conference.

WELDON J. WALKER, CURTIS P. ARTZ, ROBERT E. BLOUNT, JOHN P. FAIRCHILD, and THOMAS H. HEWLETT, Brooke Army Medical Center, Fort Sam Houston, Texas, and JOHN J. KRALIK, Cleveland.

A pictorial clinic with colored transparencies demonstrates the medical, surgical, radiological, pediatric, pathological, and surgical research contributions to the diagnosis and therapy of patients with heart disease. Representative cases with pre and postoperative clinical and hemodynamic data are graphically presented of such diverse lesions as atrial septal defect, coarctation of aorta, aortic insufficiency, mitral stenosis, aortic aneurysm, patent ductus arteriosus, pulmonary stenosis, and transposition of the great vessels.

Focal Pulmonary Hemosiderosis in Rheumatic Heart Disease.

MICHAEL J. ESPOSITO, New York Hospital, Cornell Medical Center, New York.

The exhibit consists of x-ray films depicting lung changes in focal hemosiderosis, plus Kodachrome slides demonstrating the pathological material in some of the cases. The findings in a series of 100 cases of rheumatic heart disease studied post mortem will be presented, and the clinical, pathological, and radiological features relative to hemosiderosis are outlined.

Morphology of the Heart Before and After Intracardiac Surgical Procedures.

CONRAD R. LAM, ROBERT F. ZIEGLER, JOHN W. KEYES, and LEO F. KENNEY, Henry Ford Hospital, Detroit.

The heart shows a typical roentgen appearance when one of the following pathological states is present: mitral stenosis, aortic stenosis, pulmonic stenosis, and interatrial septal defect. With full color transparencies, the picture of the heart itself is developed from the roentgenograms. Specific chamber and great vessel enlargement is demonstrated. At the same time, the valvular or other defect is depicted and the operative treatment is demonstrated. The important diagnostic signs for determining operability are outlined.

Broncholithiasis.

COLEMAN B. RABIN, SIGMUND A. BRAHMS, and OSCAR H. FRIEDMAN, Mount Sinai Hospital, New York.

The exhibit is based on the findings in 65 cases. The pathogenesis and common sites of the stones are described, and their relation to the anatomy of the bronchi is illustrated on diagrams. The clinical features are listed. The roentgen findings on conventional films in various projections and the use of Bucky films, laminography, and bronchography is depicted. The differential diagnosis from tuberculosis, carcinoma, and bronchiectasis is drawn. A statistical summary is presented, showing the predominant involvement of the middle lobe and the anterior segment of the upper lobes.

Section on Experimental Medicine and Therapeutics

The representative to the Scientific Exhibit from the Section on Experimental Medicine and Therapeutics is JOSEPH F. ROSS, Los Angeles.

Pharmacology of Antihypertensive Drugs.

HAROLD D. GREEN, Bowman Gray School of Medicine, Winston-Salem, N. C.

This exhibit describes pertinent points regarding the more important antihypertensive drugs currently in use. These include the adrenergic blocking drugs; the ganglionic blocking drugs, such as the hexamethonium compounds; the veratrum group of drugs; and the reserpine compounds.

Portal Hypertension.

FRANKLIN B. MOOSNICK and JACK G. WEBB, Lexington, Ky.

The various etiological factors that may result in portal hypertension are presented, together with the representative pathology and the sites of localization in the portal system. From this point, the alterations in physiology that may result are listed, and the manner in which these changes produce the characteristic symptoms and findings of portal hypertension is shown. This phase is amplified with discussion of diagnosis and treatment. Medical and surgical handling of the patient are presented, with emphasis on the control of ascites and on the emergency care of the patient with esophageal bleeding. Finally surgical procedures for the relief of portal hypertension are presented with demonstrations of portal-caval and splenorenal shunts, discussion of patient selection, and pre and postoperative care.

Electrical Impedance Plethysmography and Constant Mass Displacement Ballistocardiography.

JAN NYBOER, Harper Hospital, Detroit, and ROGER SHANNON, George Washington Medical School, Washington, D. C.

An electronic amplifier designed to detect and record the electrical impedance variations of a biological conductor, physical or chemical transducer is demonstrated. This unit is adapted for measurement of bed displacement ballistocardiograms. A human subject may be used to illustrate the technique involved in electrical plethysmography based on variations in conductance properties of the body tissues associated with variations in blood volume content in the segment. The physiological, physical, chemical, and pathological factors influencing these impedance measures are outlined. Charts and graphs illustrate the principles of recording cardiac ballistics, segmental volume pulsations, segmental clearance, or appearance of electrolyte indicators of space and blood flow as indexes of the circulatory activity.

Direct Measurement of Heart Force Changes Produced by Drugs.

R. P. WALTON, Medical College of South Carolina, Charleston, S. C.

The operation of electronic equipment is demonstrated along with recordings that illustrate observations of clinical significance. Direct measurement of heart force changes has been accomplished by means of strain gauge coils bonded to a small metal arch surgically attached to the ventricular wall in animals. The validity of such measurements has been demonstrated by correlations with pressure gradients, stroke volume changes, and recordings of the acceleration ballistocardiograph. The latter instrument has been used in patients during shock, and these observations have demonstrated that the cardiac drug responses of patients are closely similar to those of experimental animals. The stimulant effects of l-arterenol, for instance, have been shown to be the same in animals and in patients and, correspondingly, to be virtually identical with the effects of epinephrine.

Hemodynamic Effects of Hypertension: A Ballistocardiograph Study.

SIDNEY R. ARBEIT, PIERRE MORET, and GERALD EURMAN, Jersey City, N. J.

The exhibit shows the effects on the displacement, velocity, and acceleration ballistocardiogram of lowering and raising the blood pressure and of increasing and decreasing the cardiac propulsive force. By correlating these changes with similar effects in the experimental animal it becomes possible to visualize the hemodynamic alterations that accompany the ballistocardiograph changes.

Intramural Electrocardiography.

MYRON PRINZMETAL, ALFRED GOLDMAN, RASHID MASSUMI, LOIS SCHWARTZ, REXFORD KENNAMER, LOUIS RAKITA, and JEAN-LOUIS BORDUAS, Cedars of Lebanon Hospital, Los Angeles, and City of Hope Hospital, Duarte, Calif.

The exhibit is concerned with the genesis of the electrocardiographic deflection in man and dog with relation to spread of excitation from endocardium to epicardium, as determined by intramural potentials. It demonstrates the manner in which various components of the electrocardiogram develop and points out the contribution made to the genesis of the electrocardiogram by various myocardial layers. These fundamental observations explain the clinical electrocardiogram especially in coronary artery disease in a more rational light than previously possible.

High Blood Pressure: A New Approach to Its Management.

HAROLD B. EIBER, New York Medical College, Flower and Fifth Avenue Hospitals, New York.

No one basic preparation is available today that adequately controls moderate and severe hypertension. More than one preparation is essential for satisfactory treatment. Almost all of these combinations are usually initiated in a hospital; other combinations present serious complications. This exhibit presents a new approach to this problem. Chlorpromazine, acting as a potentiating agent, enhances the antihypertensive effect of several known preparations including Rauwolfia serpentina crude root and alkaloids. Two hundred and fifty ambulatory patients treated with this new combination for 18 months showed marked blood pressure reduction, symptomatic relief, improved renal function, reduction of cardiac size, and fundus improvement, without complications or serious side-effects. Results of the use of chlorpromazine in combination with Rauwolfia serpentina in the treatment of hypertension, senile agitated states, and various psychiatric conditions are also reported for the first time.

The Diagnosis of Hemorrhagic Disorders.

MARIO STEFANINI and JAMES H. GRAHAM, St. Elizabeth's Hospital and Tufts College Medical School, Boston.

The exhibit presents a graphic review of the mechanism of hemostasis and of the screening and more specialized techniques used to identify and classify most hemorrhagic disorders. It discusses the clinical problems presented by the various hemorrhagic disorders and illustrates the main clinical and laboratory findings in each of them. The basic forms of treatment in the various hemorrhagic disorders are shown.

Choline Theophyllinate, A New Oral Theophylline Compound—A Clinical Pharmacological Study.

HERBERT S. KUPPERMAN, SIDNEY DANN, FREDERICK R. BROWN, and JOHN GAGLIANI, New York University-Bellevue Medical Center, New York.

Choline theophyllinate, a highly soluble and stable salt of choline theophylline, a relatively strong base and a weak acid, has been subjected to clinical and pharmacological studies. Theophylline blood levels, after oral administration of choline theophyllinate, were some 60 to 70% greater than those observed after comparable doses of aminophylline with or without aluminum hydroxide. Choline theophyllinate proved to be a superior medicament for the control of bronchial asthma as measured by spirometric studies and clinical studies. It also proved to be a very effective medicament for the treatment of premenstrual molimina. Oral administration of choline theophylline was associated with less gastrointestinal irritations than aminophylline with or without aluminum hydroxide.

Blood Reducing Steroids in Health and Disease.

SMITH FREEMAN, CHARLES INMAN, J. X. WHEELER, and CHIADAO CHEN, Veterans Administration Hospital, Hines, Ill., Veterans Administration Research Hospital and Northwestern University Medical School, Chicago.

The exhibit presents information concerning free plasma-reducing steroids derived from the adrenal cortex and relates them to problems of health and disease. Methods of plasma steroid estimation and fractionation are shown. The normal range of plasma corticoid values is given for males and females. The values for a variety of disease states are presented and the effect of corticotropin (ACTH) upon the concentration of total plasma and "F-like" corticoids is shown. Similar data are presented on the effect of ingestion or injection of compounds E and F.

Autonomic Blocking Drugs: Ulcer—Hypertension.

KEITH S. GRIMSON, FRANK H. LONGINO, and BENJAMIN H. FLOWE, Duke University School of Medicine, Durham, N. C.

A life-size figure shows the autonomic nervous system supplying the stomach and the blood vessels, heart and adrenal glands, including the sites of action of the drugs. The selectively parasympathetic quaternary ammonium drugs studied—methantheline, diphemanil, propantheline, antrenyl, penthienate, methscopolamine, and bemonium—are shown, as well as the orally effective ganglion blocking drugs, hexamethonium, pentolinium, and Su 3088. The therapeutic principles common to all of these compounds are listed, emphasizing effective dose, site of action, and antidotes. Observations on the drugs for ulcer, including therapeutic trial, are shown, also extending similar observations for drugs for hypertension. Conclusion concerning treatment for each disease process is presented.

Gout and Probenecid.

WILLIAM P. BOGER, Norristown State Hospital, Norristown, Pa., and RICHARD T. SMITH, Benjamin Franklin Clinic, Philadelphia.

Data are presented showing the long-term benefits of the use of probenecid not only in the control of hyperuricemia but also in the direction of lessening the size of established tophi, preventing the formation of new tophi, and the actual healing of certain destructive tophaceous lesions. Roentgenologic evidence of the healing of destructive lesions in the bones of gouty patients is presented. The physiological influences of probenecid in the gouty patient are shown and case reports presented to show the alleviation of the course of chronic gout both in terms of uric acid deposition and in reduction of the number of acute gouty attacks. The use of probenecid is correlated with the use of other medicaments such as colchicine, phenylbutazone, salicylates, and steroids in the management of gout.

Iron Metabolism.

CHARLES E. RATH, Georgetown University School of Medicine, Washington, D. C., and CLEMENT A. FINCH and A. G. MOTULSKY, University of Washington School of Medicine, Seattle.

The pathophysiology of normal iron metabolism is portrayed with special reference to serum iron regulation, iron stores, and iron needs as varying with age and sex. The development of iron deficiency is depicted, stressing the depletion of iron stores; diagnosis of iron deficiency anemia and its treatment (including intravenously given iron) are outlined. The pathogenesis, clinical manifestations, diagnosis, and phlebotomy therapy of iron storage disease (hemochromatosis) are illustrated. The use of plasma and red blood cell turnover determinations as a measurement of erythropoiesis in a variety of anemias is included.

The Effect of Heparin on Plasma Lipids in Abnormal States of Lipid Metabolism.

JOSEPH HERZSTEIN and CHUN-I-WANG, Mount Sinai Hospital, New York.

The effect of intravenously or intramuscularly injected heparin on plasma clearing and lipid partition was studied in patients with nephrosis, idiopathic hyperlipemia, and idiopathic hypercholesteremia and in normal controls. Plasma opacity was reduced after heparin in all groups but to a variable extent; the plasma in individuals with nephrosis and idiopathic hyperlipemia cleared least. In all patients there occurred an appreciable reduction in total lipids, primarily in neutral fat content. Light transmission of plasma was associated only in a general way with its lipid content.

Reduction of Hypercholesterolemia with Sitosterol.

R. E. SHIPLEY, Eli Lilly and Company, Indianapolis.

The exhibit presents experimental and clinical data showing the effect of oral administration of sitosterol on serum cholesterol concentration. In rabbits receiving cholesterol in the diet, hypercholesteremia and atherosclerosis can be largely prevented if sitosterol is orally administered simultaneously. Sitosterol is a plant sterol, is closely related to cholesterol, and appears to prevent the intestinal absorption of cholesterol by a mechanism that involves the formation of a mixed crystal with cholesterol. The clinical effectiveness of sitosterol in reducing hypercholesteremia will be illustrated, as well as its possible mechanism of action.

How is YOUR Thymus, Doctor?

VAUGHAN P. SIMMONS, Marquette University School of Medicine, Milwaukee.

The exhibit is designed to reawaken the interest of the profession in the thymus. It demonstrates the normal persistence of the thymus in adult mammals including man, its possible role as a significant white blood cell producer under normal conditions, and its relationship to leukemia and other diseases.

Prednisone and Prednisolone, Two New Antiarthritic Steroids: Experimental Studies in Animals.

PRESTON L. PERLMAN and SIBYLLE TOLKSDORF, Biological Research Division, Schering Corporation, Bloomfield, N. J.

The exhibit describes laboratory studies on experimental animals treated with prednisone and prednisolone. The laboratory evaluation of the multiple adrenocortical activities of these synthetic steroids, as well as certain other endocrine effects, are presented and compared. Prednisone effects following the acute and chronic administration of the compounds are also described.

Prednisone and Prednisolone: Comparative, Clinical and Metabolic Evaluation.

LAURANCE W. KINSELL, GEORGE D. MICHAELS, MARJORIE COELHO, NADINE FOREMAN, and ROGER W. FRISKEY, Institute for Metabolic Research, Oakland, Calif.

Delta-1-dehydrocortisone and delta-1-dehydro-hydro-cortisone are newly synthesized steroids that have profound anti-inflammatory activity, with significantly lesser sodium-retaining effects than either cortisone or hydrocortisone. The metabolic and clinical effects of these compounds are presented in graphic form.

Prolonged Intermittent Steroid Therapy for the Nephrotic Syndrome: Methods and Results.

KURT LANGE, RUTH STRANG, LAWRENCE B. SLOBODY, EDWARD A. FRIEDMAN JR., and EUGENE J. WENK, New York Medical College, Flower and Fifth Avenue Hospitals and the New York Medical College Research Unit (Metropolitan Hospital), New York.

Patients with the nephrotic syndrome (children and adults) observed during the past five years were compared statistically on the basis of therapy. A group consisting of 99 patients (35 of our own and 64 of others) receiving no steroid treatment was contrasted with 95 patients (22 of our own and 73 of others) receiving steroids when edematous. These groups were then compared with 22 patients of our own who received prolonged intermittent maintenance therapy. In the group receiving maintenance therapy six deaths were expected on the basis of the death rates in the other two groups, while only one death occurred. The group treated with steroids, only when edema is present, did not show a statistically significant advantage over the untreated group. The number of days in the edematous state and days of hospitalization were even more strikingly reduced in the group receiving maintenance therapy as compared with the group not receiving steroid treatment. The technique of the therapy and the laboratory findings, especially deviations in serum complement levels, will be demonstrated for both groups. Similar results with experimental nephritis and steroid therapy will be shown.

Oral Chlormerodrin Clinically Effective Without Renal Toxicity.

WILLIAM A. LEFF, HARVEY L. NUSSBAUM, V. D. MATTIA JR. and ERNEST C. HILLMAN JR., St. Barnabas Hospital, Newark, N. J.

This is a three year clinical study of 30 patients who had taken chlormerodrin orally with effective diuresis to maintain fluid balance and who had not shown any evidence of mercurial toxic effects. These patients had exhibited signs and symptoms of myocardial failure and had been receiving at least one injection of meralluride weekly for one to five years prior to the institution of the chloromercurial. When given oral therapy with the mercurial, the meralluride injections were abandoned for the most part. During this three year period, the total oral dosage of the mercurial ranged from 14,000 mg. to 50,000 mg. without any sign or symptom of renal pathology. Chloromercurial was thus clinically effective and showed no toxic effects on the kidney.

Section on Gastroenterology and Proctology

The representatives to the Scientific Exhibit from the Section on Gastroenterology and Proctology are WILLIAM H. DEARING JR., Rochester, Minn., and J. P. NESSELROD, Evanston, Ill.

Esophagitis: A Common Condition Frequently Overlooked.

H. W. SCHMIDT, F. H. ELLIS, A. M. OLSEN, J. H. GRINDLAY, and A. H. BULBULIAN, Mayo Clinic and Mayo Foundation, Rochester, Minn.

Esophagitis is a relatively common disorder that is frequently overlooked. It usually occurs in association with conditions that produce or permit regurgitation of gastric contents. Thus, the causes of vomiting may be etiological factors in the production of esophagitis. Incompetence of the sphincteric mechanism at the cardia is also a very important factor. Such cardial incompetence occurs frequently with esophageal hiatal hernia and as a complication of surgical procedures that destroy the cardial mechanism. This exhibit presents (1) typical case reports illustrating various conditions producing esophagitis; (2) pathological specimens, photomicrographs, and esophagoscopic photographs of esophagitis in man; (3) methods for the experimental production of esophagitis and surgical techniques designed to prevent esophagitis; and (4) various methods of treating esophagitis and its complications.

Effect of Anticholinergic Drugs on Normal and Abnormal Gastrointestinal Motility.

WOLFGANG F. VOGEL and G. KENNETH HAWKINS, Paterson and Bloomfield, N. J.

Using the technique of a barium meal, x-ray examinations were made before and after administration of various anticholinergic drugs. Patients included normal individuals and those with hyperperistalsis, peptic ulcer, gastric resection, colon resection, and pylorospasm. Comparative effect on gastrointestinal motility in each of these conditions is demonstrated by a series of x-rays. Case histories are included.

Electronic Analysis of Gastrointestinal Sounds in the Measurement of Gastrointestinal Motility and the Effect of Drugs.

FRANZ J. INGELFINGER, JOHN T. FARRAR, and PHILIP KRAMER, Boston.

Gastrointestinal sounds will be picked up either from live subjects or from previously recorded tape. The sounds will be displayed on an oscillographic screen and will be fed through an integrator that measures the total energy of sound per unit time. Stethoscopes for listening to the sounds will be available to those desiring to do so. Charts on the wall will demonstrate how the character and total quantity of intestinal sounds correlate with other methods of measuring gastrointestinal motility. The exhibit will also demonstrate that the measurement of gastrointestinal sounds is a practical, easy, and physiological means of assessing this effect of drugs on gastrointestinal motility in the intact human being under normal conditions.

The Value of Gastroscopy in the Diagnosis of Stomach Lesions.

EMMANUEL DEUTSCH, Tufts College Medical School, Boston, and DANIEL L. SHAW JR., Philadelphia.

Gastroscopic observation of the presence or absence of changes in the smooth muscle layers of the stomach can help in distinguishing benign and malignant ulceration of the stomach. The changes that occur in the contour of the stomach follow the variation in contraction and relaxation of the smooth muscle layers of the gastric wall. Observation of peristaltic waves and segmental tonus changes of the stomach is of considerable value. Exfoliative cytology is obtained by scraping under direct gastroscopic vision using a polyethylene tube, after which the desquamated mucosa and muscularis mucosae is aspirated and quickly prepared for cell block, then examined microscopically. Gastric biopsy and specimens obtained under gastroscopic observation can be examined for definitive diagnosis.

Fatty Livers with Jaundice: Clinical and Therapeutic Considerations.

FREDERICK STEIGMANN, Hektoen Institute of Cook County Hospital and University of Illinois College of Medicine, Chicago.

The significant clinical and laboratory findings in chronic alcoholics who have fatty livers complicated by jaundice are demonstrated by graphs, tables, and Kodachromes of liver biopsy and autopsy material. The cholestasis and other signs pointing to an obstructive jaundice are presented and their significance discussed in the differential diagnosis of these cases between medical and surgical jaundice. Lack of signs of medical jaundice is discussed. The great importance of infection or trauma in throwing these asymptomatic cases of fatty liver into a state of toxic hepatitis is depicted. The therapeutic procedures proved of value in this material are presented and their basis discussed.

A Composite Approach to Liver Disease.

THOMAS J. WHITE, CARROLL M. LEEVY, ANGELO M. GNASSI, MARTIN W. POLLINI, and FELIX TRAUGOTT, Medical Center, Jersey City, N. J.

This exhibit presents clinical, biochemical, and anatomic changes of the liver in 500 patients under medical therapy for hepatic disease. A review is made of methods employed in clinical study; results of biochemical function tests; and indications, contraindications, and complications of needle biopsy of the liver. The technique used in 2,000 consecutive needle biopsies is demonstrated by wax moulages. Emphasis is placed on (1) clinical and biochemical findings, (2) microscopic and gross pathology, and (3) results of treatment in liver disease due to nutritional deficiency, infectious and toxic agents, chronic passive congestion, extrahepatic biliary obstruction, and neoplasms.

Sodium Dehydrocholate in the Diagnosis of Biliary Tract Disease.

JOSEPH M. GAMBESCIA, ALEXANDER W. ULIN, CHARLES M. THOMPSON, and WILLIAM C. SHOEMAKER, Hahnemann Hospital, Philadelphia.

The exhibit shows (*a*) the experimental work on dogs demonstrating the presence of reservoir function of the normal gallbladder and its loss with the occurrence of acute cholecystitis; (*b*) the clinical application of the principle of reservoir function with the use of sodium dehydrocholate in the diagnosis of biliary tract disease (the results of the test in over 100 patients are presented with representative cases); and (*c*) slide projection that graphically demonstrates the principle and broad technique of the decholin test.

Evaluation of Drugs in the Treatment of Peptic Ulcer—A Method of Study.

JULIAN M. RUFFIN, Durham, N. C.; DAVID CAYER, Winston-Salem, N. C.; JOHN S. ATWATER, Atlanta, Ga.; and BENJAMIN OREN, Miami, Fla.

The exhibit consists of an explanation of the pathological physiology involved in the production of ulcer pain, the mode of action of the anticholinergic drugs in the relief of pain, and the comparative results of long-term treatment of ulcer patients. The principles of a double-blind study are emphasized, and the application of these principles to the evaluation of drugs in the treatment of 563 ulcer patients utilizing pathilon, banthine, atropine, and placebos is illustrated.

The Use of Dihydroxy Aluminum Aminoacetate in Peptic Ulcer.

J. ALFRED RIDER, LEO VAN DER REIS, JOHN O. GIBBS, JOYCE SWABER, and JENNIE LEE, University of California School of Medicine, San Francisco.

Data on the effectiveness of dihydroxy aluminum aminoacetate on the in vitro and the in vivo neutralization of hydrochloric acid are presented. The clinical results obtained by the use of this agent in the treatment of peptic ulcer are shown.

Nonsurgical Treatment of Perforated Peptic Ulcer.

J. D. LANE JR., U. S. Public Health Service Hospital, Staten Island, N. Y.

A group of charts, drawings, photographs of x-rays, and a statistical analysis of 126 cases in support of the effectiveness of the treatment are demonstrated. Visuals show the presence of peritoneal gas in the first instance and the condition of selected patients as treatment progressed.

Section on General Practice

The representative to the Scientific Exhibit from the Section on General Practice is CHARLES E. MCARTHUR, Olympia, Wash. In addition to the exhibits listed below, the Section is sponsoring the *Special Exhibit on a Medical School Department of General Practice.*

Special Exhibit on a Medical School Department of General Practice

The Special Exhibit on a Medical School Department of General Practice is presented by the Section on General Practice. An outline of the organization, objectives, functions, and facilities of the Department of General Practice at the University of Tennessee College of Medicine is featured. Photographs and transparencies illustrate the exhibit, demonstrating the opportunities the Department of General Practice offers students in seeing and caring for the total health needs of patients and their families. An opportunity for the students to do supervised general practice at the undergraduate level is shown.

The exhibit will be demonstrated by the following full-time teaching general practitioners in the department:

ROBERT A. DAVISON and L. F. RITTELMEYER JR., Memphis, Tenn.

Low Back Pain.

GEORGE S. HACKETT, Canton, Ohio.

The exhibit shows an enlarged plastic lumbar and pelvic skeleton with ligaments, trigger points, needles for diagnosis and treatment, and referred pain areas in groin, buttock, and extremities which have been identified from 3,000 injections. Photostats of animal experiments over a two year period reveal a permanent increase of bone and fibrous tissue by proliferation, which explains the clinical results of 82% of cures in 528 cases in the past 16 years. Charts of statistics and methods are presented.

Cervical Erosion—An Effective and Simple Method of Treatment.

I. PHILLIPS FROHMAN, Washington D. C.

This exhibit shows a simple and effective chemical treatment of cervical erosion with excellent results in 2,300 patients in a 12 year study. The advantages of this method over electrocautery are stated. Lucite models show the cervix with a wide erosion, and subsequent models show the effects weekly of chemical treatments and the terminal results with the completely healed cervix. Tables show symptoms associated with or due to cervical erosion, age, and social group, number of treatments per patient, etc. An outline of the procedure and a picture of the application with chemicals are shown. This method is specially adapted for use by the general practitioner in his busy office practice.

Basic Factors in the Prevention of Chronic Degenerative Diseases—Subclinical Changes Produced Through Nutritional Deficiencies.

CHARLES F. NELSON and MERRILL S. PROWS, Nelson Clinic and Nelson Research Foundation, Beverly Hills, Calif.

A series of micro-Kodachromes of heart, blood vessels, kidneys, liver, thyroid, and adrenals is presented. Early structural changes due to specific nutritional deficiencies and imbalances occur in all tissues before gross manifestations or symptoms appear. In each experiment, rats and guinea pigs were fed a normal diet, except the omission of one specific vitamin or mineral, or drastic reduction of protein. Animals were sacrificed after stated periods of time. The findings were correlated with data from routine laboratory tests and observations in the clinical management of thousands of patients. Certain biophysical and biochemical factors can be identified, with considerable accuracy, as basic causes of the chronic degenerative diseases. Accompanying charts show how optimal levels of the essential nutrients can be maintained.

Recent Advances in Cytological Techniques.

H. E. NIEBURGS, Cytology Center, Beth-El Hospital, Brooklyn, N. Y.

The science of exfoliative cytology was based on the study of morphological changes in cells following mostly spontaneous exfoliation. The new trend in exfoliative cytology is in the establishment of techniques devised for slight abrasion of surface cells rather than collection of exfoliated cells. A number of instruments devised for this purpose have opened new possibilities for cancer detection in various parts of the body. The cells obtained by such methods appear to be better preserved and are easier to identify in regard to their origin and neoplastic change. Results of older methods will be displayed in comparison with the most recent techniques devised for cancer detection. A new device for self-examination and automatic preparation of a smear specimen for the detection of cancer in the cervix uteri will be shown. In addition, a new scanning microscope, constructed for the examination of large numbers of specimens, will be demonstrated.

Congenital Dysplasia and Dislocation of the Hip.

L. E. HARRIS and P. R. LIPSCOMB, Mayo Clinic and Mayo Foundation, Rochester, Minn.

The diagnosis of congenital acetabular dysplasia with or without dislocation of the hips too often is not made until the age of weight bearing in the child or until the condition is evidenced by a painful dysplastic hip in adult life. By routine employment of the abduction test in the examination of newborn and older infants, the condition may be diagnosed at an early age and simple effective treatment instituted by use of the Frejka pillow splint. This exhibit demonstrates with photographs and models application of the abduction test to determine the presence of congenital disorders of the hip. It presents the salient roentgenographic features of congenital acetabular dysplasia before and after the treatment and the design and application of the Frejka pillow splint.

Management of Cardiovascular Emergencies.

JACOB J. SILVERMAN, Staten Island, N. Y., ARTHUR BERNSTEIN, Newark, N. J., and HAROLD B. TRACHTENBERG, New York.

The exhibit describes the management of the common cardiovascular emergencies. Each emergency is outlined and appropriate therapy indicated by means of diagrams, charts, and legends. The newer drugs and techniques are included.

Prognostic Value of Life Insurance Mortality Investigations.

WILLIAM BOLT, New York Life Insurance Company, and EDWARD A. LEW, Metropolitan Life Insurance Company, New York.

Charts show comparisons of the survivorship over a 15 year period of insured persons having various medical impairments with that of standard insurance risks. The impairments included in this exhibit are mitral regurgitation, family history of cardiovascular-renal disease, phlebitis, bronchitis, gastric and duodenal ulcers, diseases of the gallbladder, and renal colic. The charts also show the influence of several pertinent factors on the results and the principal causes of death responsible for the excess mortality in each classification. The data relate to the period 1935 to 1950. They are derived from the "1951 Impairment Study" made by the Society of Actuaries in consultation with the Association of Life Insurance Medical Directors, covering the experience of 27 large life insurance companies.

Early Treatment of Club Feet and of Flat Feet.

ROSS E. GUNN, Boone, Iowa.

The exhibit shows improvements in technique and a method for inducing an arch for the congenital flat foot. The flat foot cure consists of a hauser wind with added traction in two dimensions, in such manner as to ease the stretch on the tibialis posticus and the digital flexors, so that they gradually shorten and cause the foot to form an arch.

What Anticoagulant Shall I Use?

SHEPARD SHAPIRO and SAMUEL M. GORDON, New York.

Satisfactory therapy rests on a triad of diagnosis, selection of therapeutic agent, and control of the therapy. The number of anticoagulant drugs available for use in this therapy and being promoted to the physician is increasing. The characteristics of the drugs and their respective advantages and disadvantages are presented in charts to supply information for the proper selection of anticoagulant agent. Contraindications to therapy are described, and the legitimate and contradicted uses of anticoagulant drugs are stressed. Methods for using the anticoagulant drugs to yield the greatest benefit to the patient and with the least number of laboratory tests are presented. Charts show helpful diagnostic aids.

Oral Electrolyte Therapy.

W. E. HENRICKSON, Poplar Bluff, Mo., and J. L. WATSON, Evansville, Ind.

This exhibit is based on the clinical experiences of physicians in general practice employing a recently devised oral electrolyte mixture in several hundred patients. The basic composition and rationale of the mixture are presented by the use of pictorial devices and bar charts. Specific clinical indications for oral electrolyte therapy are summarized. Contraindications are covered. Case histories representative of the indications are summarized. Generous use is made of illuminated color transparencies, diagrams, and charts. Emphasis is placed on the fact that rational clinical use of oral electrolytes requires an understanding not only of the electrolyte imbalances in a given clinical situation but also the other disturbances present and the mixtures indicated for their correction.

Hypoglycemia and Hyperinsulinism.

BROCK E. BRUSH, WILLIAM L. LOWRIE, W. EARL REDFERN, and F. WAYNE HOLLINGER, Henry Ford Hospital, Detroit.

The early symptoms of most patients with islet cell tumors are so bizarre that a diagnosis of psychoneurosis is frequently made. Several years may pass before the disease is unmasked. The general practitioner usually sees these patients first and if the true condition is suspected and an early diagnosis is made a great deal of damage and suffering will

be obviated. The symptoms and clinical picture by which an early differentiation of the organic and functional types may be made are outlined. The value of various laboratory procedures, such as insulin and glucose tolerance tests, 24 hour sugar curves, and response to ACTH, are discussed and a diagnostic outline presented. A trial period of observation on specific dietary management is recommended under certain circumstances. The management of 12 benign and 2 malignant adenomas is presented.

The Clinical Management of Poliomyelitis with Emphasis on Muscle Relaxation.

GEORGE J. BOINES, Wilmington, Del.

Charts and photographs indicate the clinical treatment of acute poliomyelitis from admission to the hospital to complete physical and functional rehabilitation. The use of curare in a repository medium is outlined and routine of exercises, general care, and nutrition is presented. The role of the general practitioner in the management of this disease is emphasized.

Modern Concepts of Water and Electrolyte Balance in Congestive Heart Failure.

WILLIAM E. LAWRENCE, MARGARET S. KLAPPER, ROBERT S. HOGAN, and CLARENCE E. KLAPPER, Medical College of Alabama, Birmingham, Ala.

This exhibit employs an original schema depicting modern concepts of the pathogenesis of congestive heart failure and its relationship to disturbances of electrolyte and water balance. The normal distribution of water and electrolytes is pictured, and the milliequivalent concept is explained, followed by progressive illustrations of the changes characteristic of onset, early, and late phases of cardiac decompensation.

Health Hazards of Solvents—at Home—on the Job.

CARL M. PETERSON and C. D. BRIDGES, Council on Industrial Health, American Medical Association, Chicago.

Exposure to solvents in housekeeping, home maintenance, hobby activities, or on the job may be the obscure cause of vague symptoms or serious disability. Particular emphasis is given to the toxic properties of the vapors of several solvents with the attendant hazards of inhalation, in such activities as home dry cleaning, applying and removing paint and varnish, extinguishing fires, removing adhesive tape, etc. Carbon tetrachloride is given special attention.

Drug Therapy of Hypertension.

GEORGE F. SCHMITT, University of Miami School of Medicine, Miami, Fla.

This exhibit shows all the drugs currently used in the treatment of hypertension. The products of the various pharmaceutical houses are catalogued as to source and constituency. Literature is available summarizing the exhibit.

Common Sense Concepts in the Management of Acne Vulgaris.

ELMER R. GROSS, Temple University School of Medicine, Philadelphia.

Experience gained from the observation of over 5,000 patients with acne vulgaris has resulted in the development of certain therapeutic concepts. Of primary consideration to the therapeutic approach is the prevention of the most serious sequelae of acne-scarring. The essential features of the conservative management of this disease are presented by means of charts, drawings, and photographs. Emphasis is placed on regimens concerned chiefly with proper personal hygiene and the use of simple local therapeutic measures. The physician is cautioned against the use of multi-drug combinations, as well as falling into the pitfalls of accepting unproved, new polygalencial mixtures which seem to be in vogue at different times. With the early institution of proper treatment and with the cooperation of the patient much can be accomplished to minimize the disfiguration resulting from the neglect of acne, and a reasonable degree of success may be achieved in controlling the local lesions.

Estrogen Lotion Treatment of Chronic Acne.

IRVING SHAPIRO, Newark, N. J.

During the past six years 84 cases of chronic, severe acne vulgaris in both sexes have been treated using sodium estrone topically in lotion form. Tables, graphs, and before and after photographs show 85% good results in this type of recalcitrant severe acne with a minimum of unwanted side-effects. Dosage requirements and clinical end-points are given in table form.

Tension Headache.

LESTER S. BLUMENTHAL and MARVIN FUCHS, Washington, D. C.

Although headache might have many etiologies, most patients with chronic headache have a large element of tension to contend with. This might be the primary cause of headache or it might contribute to a specific headache caused by other factors. The exhibit will attempt to present the way that tension from many different factors in the individual patient contributes to or causes the headache to develop or continue.

Aerosol Therapy.

MAX S. SADOVE, University of Illinois College of Medicine, Chicago.

The exhibit gives the indications and usages of aerosol therapy in medicine, in surgery, and in pediatrics. Information will be presented concerning the standard aerosol therapy now available in the country, the various pumps, oxygen wall and tank adapting units, and the various equipment used in aerosol therapy, demonstrating their usages. Experiments showing the pharmacology of the drugs are included.

A Yearly P. E. for Every M.D.

This exhibit on physical examinations is presented conjointly by the American Academy of General Practice, the National Tuberculosis Association, and the Section on General Practice of the American Medical Association. The exhibit is an appeal to the physician to consider his personal health. Because of the physician's self-discipline, developed to guard against symptoms by suggestion, he, too, often disregards vague or slight subjective symptoms until the opportunity for successful treatment is past. The physician's own self-examination should be supplemented by periodic objective examinations including electrocardiograph, x-rays of lungs and gastrointestinal tract, and proctoscopic examination. The exhibit offers electrocardiographic examination and chest x-rays to visiting physicians.

Section on Internal Medicine

The representative to the Scientific Exhibit from the Section on Internal Medicine is JOHN S. LAWRENCE, Los Angeles.

Evaluation of the Vaccine for Poliomyelitis.

HART E. VAN RIPER, National Foundation for Infantile Paralysis, Inc., New York.

This exhibit will show by means of pictures and graphs the evaluation of the vaccine for poliomyelitis and the methods used.

Heart Pain: Its Mechanisms and Relief.

JOSEPH T. ROBERTS, Veterans Administration Hospital, Buffalo, N. Y.

These studies show that the vasa nervorum contracted after ligation of a coronary artery and that after release of ligature reopening takes place. The vasa nervorum in the right arm of animals did not change after coronary ligation. This lends strong support to the theory that cardiac referred pain is due to ischemia of the somatic nerves with vasospasm of their vessels. This appears to support the mechanism accounting for relief of angina at times by local anesthesia, the occasional silent infarction, occasional disappearance of angina after infarction, shoulder-hand syndrome or Dupuytren's contracture occasionally observed following myocardial infarction, the influence of psychic or stress situations, precipitation angina, etc. Cardiac muscle hypertrophy reduces the blood supply but does not cause pain in the absence of other causes.

The Management of Essential Hypertension.

JOSEPH C. EDWARDS, Washington University School of Medicine, St. Louis.

The exhibit presents a study of patients with hypertensive disease, some with malignant hypertension, followed for one to three years on Rauwolfia serpentina preparations including reserpine, Veratrum compounds including alkavervir and protoveratrine A and B maleates, hexamethonium, hydralazine, and pentapyrrolidinium pentolinium tartrate either singly or in combination at certain periods. Charts show blood pressure readings taken in the sitting, standing, and recumbent positions. The dangers and possible harmful effects of the drugs are given. The need for a substitute for apresoline is stressed because of its deleterious effect with a rheumatoid or lupus-like reaction in some patients. The necessity for careful observation, cooperation of the patient, and intelligent instruction on all of the pharmacology and possible dangers of these drugs, as well as their ultimate benefits, are stressed in order to avoid serious or new diseases that might result.

Analysis of Fifty Patients Treated by Mitral Commissurotomy Five or More Years Ago.

ROBERT P. GLOVER, THOMAS J. E. O'NEILL, O. HENRY JANTON, J. C. DAVILA, and ROBERT G. TROUT, Presbyterian, Episcopal, and Hahnemann Hospitals, Philadelphia.

It is of paramount importance to take stock and become acquainted with the long-term surgical results obtained in the treatment of mitral stenosis. Fifty patients treated five or more years ago have been followed to the present time. Charts, drawings, and photographs illustrate the present functional status of each patient, together with all possible objective findings to include catheterization data, electrocardiographic and radiologic changes, present clinical findings, and postoperative (early and late) complications. Additional data on the incidence of rheumatic activation and the problem of re-stenosis are included.

The National Heart Institute—A Medium for Service.

JAMES WATT and WILLIAM H. STEWART, National Heart Institute, Bethesda, Md.

The exhibit presents a well-rounded, interesting picture of the total Public Health Service heart program as a medium for service in each of four areas: (1) research, (2) support of research and training, (3) technical services, and (4) control.

Treatment of Essential Hypertension with the Hydrogenated Alkaloids of Ergot.

RAYMOND F. GRENFELL, Jackson, Miss.

The ambulatory treatment of 90 patients with essential hypertension over a three and a half year period using the hydrogenated alkaloids of ergot parenterally is presented. The absence of toxicity, the freedom from side-effects, and the disappearance of symptoms are demonstrated. A practical dosage schedule is described without the development of tolerance to the drug.

The American Heart Association Serves the Physician.

CHARLES D. MARPLE, ROBERT S. WARNER, and ARTHUR S. CAIN, American Heart Association, New York.

The exhibit includes a demonstration and exhibition of professional services and educational materials available to the physician. It includes heart models and educational kits for physicians to use at the exhibit.

Recent Methods in the Study and Treatment of Atherosclerosis in Normal Subjects Eighty to One Hundred Years of Age.

A. A. GOLDBLOOM, L. J. BOYD, I. CHAPMAN, O. DEUTSCHBERGER, and W. R. LOEWE, the New York Medical College, Flower-Fifth Avenue Hospitals (Bird S. Coler Hospital Division), New York.

This exhibit presents further studies of preliminary data which were presented for the first time in 1954. There are no such similar published reports to date, in normal individuals aged 80 to 100, with no previous metabolic, coronary artery, or cardiovascular diseases. Serum lipid partitions, analytical ultracentrifugal lipoprotein fractions, paper electrophoresis (including lipidograms), x-rays, electrocardiograms, ballistocardiograms, and serial pathological findings were correlated and compared with similar studies of younger subjects (25 to 80 years). A "threshold" occurs in the 60 to 75 year group, after which there is a reversal of biochemical and/or physical processes. Correlated x-ray and biochemical data in the presence of microscopic atherosclerosis were found, which were not in agreement with previously accepted criteria. Current therapy of atherosclerosis in normal geriatric individuals is discussed.

Newer Concepts of Atherosclerogenesis.

THEODORE D. COHN, I. J. GREENBLATT, DAVID SPAIN, and LEO GITMAN, Beth-El Hospital, Brooklyn, N. Y.

Charts, graphs, and demonstration material are used to illustrate the relationship of impaired lipid transport to atherosclerogenesis. The exhibit shows (*a*) historical development of present concept; (*b*) biochemistry and biophysics of serum beta lipoproteins; (*c*) results of studies in our laboratory of lipoproteins in: newborns, normal children, and normal adults, diabetic children and diabetic adults, angina pectoris and myocardial infarction, hypertension, xanthomatoses, results of studies of the Bantu population of South Africa (a race that does not get coronary artery disease); and (*d*) possible pathways of therapy: the results of low fat diet, gastrointestinal blocking agents (sitosterols), heparin, and estrogen.

Multiphasic Therapy of Cardiovascular Disorders in Geriatric Patients.

RAYMOND HARRIS, Ann Lee Home, Albany, N. Y.

This exhibit presents a multiphasic approach to the treatment of cardiovascular disorders in geriatric patients. Results of cardiovascular investigations at the Ann Lee Home, using reserpine, gitalin, and hydralazine, are summarized. Nutritional and socioeconomic aspects are outlined in addition to the medical therapy.

Lateral Plane Ballistocardiography (Dock).

HARRY MANDELBAUM, ROBERT A. MANDELBAUM, and WILLIAM DOCK, State University of New York, College of Medicine, Brooklyn, N. Y.

It is unwise to base conclusions on abnormal head-foot ballistocardiograms as to the effect of aging, disease, or drugs, unless studies in the lateral plane show these aberrations not to be directional. The Dock lateral-plane ballistocardiograph is a platform mounted on stiff springs, which is placed under the upper 15 inches of the thorax and shoulders. Standard head-foot traces are recorded simultaneously with the lateral plane records on a two-channel electrocardiograph. Results in normal young subjects, in older subjects and in advanced hypertensives, and in coronary artery disease are described.

External Electric Stimulation of the Heart in Cardiac Arrest—Stokes-Adams Disease, Reflex Vagal Standstill, and Unexpected Circulatory Arrest.

PAUL M. ZOLL, ARTHUR J. LINENTHAL, LEONA R. NORMAN, MILTON H. PAUL, and WILLIAM GIBSON, Beth Israel Hospital and Harvard Medical School, Boston.

The experimental basis of external electric stimulation of the heart is demonstrated. Electrocardiograms, arterial pressure tracings, and clinical data are presented on posters. A plaster torso shows the placement on the chest of the electrodes from the electric cardiac stimulator. The resuscitation of patients from ventricular standstill is shown. The results are presented in 34 patients with Stokes-Adams disease and with unexpected circulatory arrest in the operating room.

Anticoagulant Therapy Controlled by a Simple Blood Prothrombin Test.

BENJAMIN MANCHESTER, George Washington University School of Medicine, Washington, D. C.

Graphs, charts, illustrations, and transparencies offer indications and contraindications for anticoagulant therapy. The reduction and prevention of thromboembolic complications are compared among a control and anticoagulant group. Tromexan, dicumarol, and phenylindandione dosage was regulated by a simple blood prothrombin test. The method will be demonstrated at the exhibit. This simple blood prothrombin test has made anticoagulants available to patients at home as well as in the hospital. The incidence of hemorrhagic complications was low. Effective control of bleeding was possible in all instances with the use of vitamin K_1 oxide emulsion.

Monckeberg's Arteriosclerosis.

SAMUEL SILBERT, HEINZ I. LIPPMANN and ELIAS GORDON, Montefiore Hospital, New York.

The exhibit consists of x-rays, charts, photographs, and models demonstrating the clinical and radiological features of Monckeberg's sclerosis, the pathology, clinical course, prognosis, and treatment.

Temporal Arteritis—A Focal Localization of a Systemic Disease.

BAYARD T. HORTON, THOMAS B. MAGATH, HENRY P. WAGENER, and MALCOLM B. DOCKERTY, Mayo Clinic and Mayo Foundation, Rochester, Minn.

First described by Horton, Magath, and Brown, in 1931, temporal arteritis was officially recognized as a new disease entity in an editorial in THE JOURNAL, June 22, 1946, based on reports of 38 cases from the world's literature. Since 1931, a total of 103 cases have been observed at the Mayo Clinic. The disease is usually nonfatal (only one death in our series) and tends to run a self-limited course lasting four to six months. It occurs exclusively in older persons. The cause is unknown. The early stages usually give no clue as to its nature. Severe headache and symptoms of sepsis may persist for weeks before the foremost clinical feature of the disease, namely the swollen, prominent and thrombosed temporal arteries, appears and allows diagnosis. The involved arteries have been resected in 61% of our patients, and giant cell arteritis has been the dominant histological feature. Permanent loss of vision in one or both eyes is the most serious complication. Unilateral loss of vision occurred in 11 of our cases and bilateral loss in 22. Some type of ocular involvement was present in 53% of cases. Cortisone appears to be helpful in preventing blindness.

Serum Glutamic Oxalacetic Transaminase Variations in Heart and Liver Disease.

JOHN S. LADUE and FELIX WROBLEWSKI, Sloan-Kettering Institute, Research Division of Memorial Center, New York.

The variations in SGO-Transaminase activity in experimental myocardial infarction, ischemia, and streptococcic toxic myocarditis will be compared with the serum enzyme changes observed in clinical myocardial infarction, coronary insufficiency, and rheumatic carditis. The dynamic changes in SGO-Transaminase activity in experimental toxic and viral hepatitis will be compared with the changes observed in clinical carbon tetrachloride poisoning and infectious and homologous serum hepatitis. The variations in SGO-Transaminase activity in cirrhosis and the significance of the increased activity in metastatic carcinoma to the liver will be demonstrated.

Spectral Phonocardiography.

VICTOR A. MCKUSICK, Johns Hopkins Hospital, Baltimore.

This method for the display of heart sounds in three dimensions—time, intensity, and frequency spectrum—is used to present examples of a large variety of abnormal cardiovascular sounds. The superiority of the method over conventional oscillographic phonocardiography is demonstrated. Technical aspects of the method are explained by schematic diagrams and by photographs of the equipment.

Cushing's Syndrome.

R. G. SPRAGUE, J. T. PRIESTLEY, WALTMAN WALTERS, R. V. RANDALL, R. M. SALASSA, and D. A. SCHOLZ, Mayo Clinic and Mayo Foundation, Rochester, Minn.

Cushing's syndrome in its severe form is a serious condition that impairs survival and is associated with a high degree of morbidity. While its remote causes have not yet been accurately ascertained, it is now well established that the condition is a direct consequence of excessive secretion of steroid hormones by hyperplastic or neoplastic adrenal cortices. No form of medical treatment in our hands has been uniformly effective. The exhibit is based upon 100 cases of Cushing's syndrome studied at the Mayo Clinic and consists of (1) a description of the clinical manifestations of the syndrome; (2) a summary of laboratory and x-ray findings; (3) a review of theories of its pathogenesis and the salient features of its endocrine pathology; and (4) a description of the surgical treatment in patients who have either tumors or hyperplasia of the adrenal cortex, with data and photographs illustrating results of such treatment.

Primary Hyperparathyroidism—A Curable Disease.

ROBERT W. SCHNEIDER and L. J. MCCORMACK, Cleveland Clinic, Cleveland.

The exhibit presents the essential clinical, roentgenological, laboratory, and operative findings in primary hyperparathyroidism. The pathology and pathological physiology are also present and reviewed. The major clinical types of cases encountered are well illustrated, and emphasis is placed upon its curability. Brief reference is made to the surgical aspects, essential to a favorable end-result.

Prevention of Rheumatic Fever.

FREDERICK J. LEWY, American Heart Association, Inc., New York.

The exhibit presents (1) treatment of streptococcic tonsillitis with a view of preventing rheumatic fever; (2) symptoms and signs of streptococcic tonsillitis; and (3) long-term prophylactic treatment of rheumatic individuals through Streptococcus control.

Rapid Alveolar Carbon Dioxide Analysis—An Aid to the Diagnosis of Ventilatory Abnormalities.

CLARENCE R. COLLIER, JOHN E. AFFELDT, MILTON G. CRANE, CLARENCE W. DAIL, and ANDREW F. FARR, Rancho Los Amigos Respiratory Center for Poliomyelitis, Hondo, Calif.

The use of the portable rapid infrared carbon dioxide analyzer in the measurement of alveolar carbon dioxide concentration is demonstrated. This instrument makes possible the instantaneous and continuous determination of alveolar carbon dioxide concentrations during ordinary breathing. Thus, the diagnosis of hyperventilation or hypoventilation can be readily established. The use of catheter sampling techniques makes the measurement possible without any interference to breathing. Data will be presented to demonstrate the reliability of the method. The determination of alveolar carbon dioxide tensions is especially useful as a clinical guide to the administration of artificial respiration. Typical case histories are presented to show the application to the management of respiratory paralysis due to poliomyelitis.

New Long-Acting Corticotropin Preparations in the Treatment of Rheumatoid Arthritis.

HEINRICH G. BRUGSCH, HAROLD S. RUBIN, and EDWARD H. FRIEDEN, Arthritis Clinic, New England Medical Center, Boston.

Charts and drawings demonstrate (1) methods of preparation of ACTH; (2) methods of assay; (3) effects upon eosinophil count and oxyketo steroids of various preparations; (4) comparative clinical data on effectiveness and duration of aqueous ACTH, ACTH gel, and ACTH zinc; (5) side-effects; and (6) contraindications.

Blood and Bone Marrow Patterns in the Differential Diagnosis of Disease.

GEORGE DOUGLAS TALBOTT, JONAH LI, and ELMER HUNSICKER, 2750th Hospital, Wright-Patterson Air Force Base, Dayton, Ohio.

Transparencies and photographs describe the differential diagnostic points in summary of various clinical conditions.

The Medicinal Management of Fatty Alcoholic Livers.

THADDEUS D. LABECKI, Mississippi State Board of Health, Jackson, Miss., and CARROLL L. BUSBY, Mississippi State Hospital, Whitfield, Miss.

The exhibit will consist of photomicrographs demonstrating to what extent the fatty infiltration in Laennec's cirrhosis may be alleviated as evidenced by punch biopsy. Some of the patients were first subjected to the conventional nutritional management and subsequently treated with synergistically acting lipotropic agents; others were followed for varying periods of time on lipotropic therapy only or on a diet containing up to 50 gm. of protein per day, with moderately large doses of lipotropic substances. Parallel to the biopsy studies, response to nutritional and medicinal management has been gauged with the aid of various liver function tests. Correlation, or lack of it, between morphological studies and the so-called function tests is emphasized.

The Use of Tube Feedings in the Nutrition of Critically Ill Patients.

GORDON M. MINDUM, Cincinnati General Hospital, Cincinnati.

The exhibit demonstrates the use of tube feedings. Pictures and diagrams illustrate the types of tubing used and the methods of use. Graphs show temperature curves, weight, caloric intake, along with photographs and case histories, demonstrating the use of tube feedings in such conditions as acute and chronic infection, acute and chronic trauma, severe burns, neoplasms, mental disease, and acute kidney disease.

The Conditioned Urinary Protein Excretion Test in the Study of Chronic and Obscure Proteinuria.

S. EDWARD KING, First Army Renal Research Laboratory, U. S. Army Hospital, Fort Jay, N. Y.

The pathological physiology of proteinuria is reviewed and applied to clinical problems in renal diseases. Experiences with this test in over 4,000 hospitalized patients indicate its value in the differentiation of renal disorders. Emphasis is placed upon inconstant proteinuria as commonly encountered in clinical practice. Two major varieties are recognized. One is transient or intermittent and associated with stressful conditions. Persistent orthostatic proteinuria demonstrable on repeated examinations represents a variety of subclinical organic renal diseases. Such conditions may be progressive and constitute a significant source of subsequent advanced renal disease. The necessity for thorough clinical study and periodic survey of patients with obscure proteinuria is emphasized.

Abnormal Human Hemoglobin: Clinical, Hematological, and Electrophoretic Correlation.

JOHN D. BATTLE JR., JAMES S. HEWLETT, and LENA LEWIS, Cleveland Clinic, Cleveland.

The existence of four inherited abnormal human hemoglobins, sickle(S), C,D,E, and two normal hemoglobins, adult (A) and fetal (F), has been proved. These are identified by Tiselius or paper electrophoresis. Hematological disorders due to one or more of the abnormal hemoglobins are recognized and range from minimal erythrocytic abnormalities to severe chronic hemolytic anemia. These disorders are not rare but are more frequent in the Negro. The exhibit correlates clinical features, hematological data, genetic patterns, photomicrographs of blood films, and Tiselius and paper electrophoretic studies of abnormal hemoglobin disease. Salient observations leading the physician to suspect these diseases are emphasized. Recognition of these disorders is important because specific antianemic therapy and splenectomy are without benefit.

Section on Laryngology, Otology and Rhinology

The representative to the Scientific Exhibit from the Section on Laryngology, Otology and Rhinology is WALTER E. HECK, San Francisco.

Twenty-Five Years of Otolaryngology in a University Hospital.

EDMUND P. FOWLER JR., FRANZ ALTMANN, D. C. BAKER JR., V. E. EPANCHIN, H. S. FRIEDMAN, DEGRAAF WOODMAN, BELA MARQUIT, and DONALD MARKLE, Columbia-Presbyterian Medical Center, New York.

Charts show basic ear, nose, and throat principles in 1930 as compared to additions made in last 25 years. Emphasis is on advances made by individuals on staff of Columbia-Presbyterian Medical Center, shown in detail, with photographs, dissections, instruments, and models to show fenestration surgery, stapes mobilization, facial nerve surgery, surgery of meatal atresia, and medical management of Ménière's disease. In addition, functional rhinoplasty, laryngeal stenosis, bilateral abductor paralysis, several panels on endoscopy, audiology, and speech, as well as Kodachrome slides of general ear, nose, and throat pathology for teaching purposes are presented; analysis of statistics show that in one hospital service where there were fewer attending surgeons and about the same number of beds, operative cases have more than doubled in the last 20 years, and the number of patients treated medically has also increased.

Cancer of the Larynx: Study Based on 25 Years' Experience.

CHEVALIER L. JACKSON, JOHN V. BLADY, and CHARLES M. NORRIS, Temple University School of Medicine, Philadelphia.

The exhibit shows transparencies of indirect and direct laryngoscopic views and operative specimens and the varied appearances of carcinoma of the larynx and laryngopharynx. Criteria for the selection of treatment are to be presented in relation to end-results. Management of "precancerous" lesions as well as early and advanced cancer is included.

Cancer of the Larynx.

WALTER H. MALONEY, Hahnemann Medical College and Hospital, Philadelphia.

The exhibit stresses the importance of early diagnosis of cancer of the larynx and, particularly, the office management of such problems so as to insure early diagnosis and proper treatment. The important pathology to be considered in the differential diagnosis is shown on Kodachrome slides. The different steps that the general practitioner must go through to obtain a proper diagnosis are outlined. The actual surgical techniques and postoperative rehabilitation are covered. Specialized recording equipment will be available so that the visitors will be able to hear the speech of patients who have been treated by laryngectomy, laryngofissure, and irradiation. It is anticipated that the exhibit will stimulate and encourage the general practitioner, as well as the specialist, to a better understanding of this disease.

Cleft Palate Program.

HERBERT CONWAY, RICHARD B. STARK, and SENTA JENSEN, New York Hospital-Cornell Medical Center, New York.

The exhibit includes photographic transparencies of patients before operation and during the many steps of ancillary therapy such as speech therapy, orthodontics, social service observation, general dentistry, child psychology, surgery for the correction of speech and final cosmetic surgery, together with artist's sketches of the operative steps involved in the technique of the one-stage push-back operation coupled with the pharyngeal flap procedure. The combined operative procedures have resulted in the development of normal speech in 80% of patients. Statistics show end-results.

The Small Blood Vessels of the Spiral Ligament and Stria Vascularis of Mammals.

FRANCIS L. WEILLE, JOHN W. IRWIN, HERBERT C. MANSMANN JR., MARY GILCHRIST, and SAMUEL R. GARGANO, Massachusetts General Hospital, Boston.

Charts, posters, and pictures emphasize the importance of small blood vessels (arterioles, capillaries, and venules) in mammalian physiology. Photographs demonstrate a method of studying the minute blood vessels of the spiral ligament and stria vascularis of living guinea pigs. Posters, charts, and pictures discuss some otological problems that may depend on disorders of the circulation of the inner ear. Slides show the blood vessels of the spiral ligament and stria vascularis.

Ménière's Disease: New Theory for the Correlation of Its Pathology to the Symptomatology.

JULIUS LEMPERT and DOROTHY WOLFF, Lempert Institute of Otology and Lempert Research Foundation, Inc., New York.

The membranous endolymphatic labyrinth in patients suffering from Ménière's disease has been removed during the performance of partial labyrinthectomy for relief of the vertigo attacks. A histological study of the cellular structure of the inner wall was made with biopsy of the membranous endolymphatic labyrinths. The pathological findings led to the evolvement of a new theory for the correlation of the pathology with the symptomatology of Ménière's disease. Photomicrographs of biopsy material depicting the progressive pathological changes upon which this new theory is based are shown.

Glomus Jugularis Tumor.

HARRY ROSENWASSER, Mount Sinai Hospital, New York.

The exhibit discusses the historical background of the glomus jugularis tumor; its recognition, grossly and histologically; the symptoms and signs of this tumor; and x-ray evaluation will be discussed. Modern therapy for this condition is presented.

Medical Audiology: A New Subspecialty.

MAURICE SALTZMAN, Temple University School of Medicine, Philadelphia.

Otological and retrolabyrinthine diseases give characteristic responses to the audiologic tests. Research has augmented and diversified the diagnostic significance of the audiogram, the relation of speech intelligibility to pure-tone acuity; the presence or absence of recruitment; the lowering of the threshold of discomfort; the measurement of tinnitus; the detection of hyperacusis, paracusis, or diplacusis, and the occurrence of loudness with a decrement. Graphic patterns of various medicoaudiologic aspects are presented.

Heredity of Multiple Benign Cystic Epithelioma.

L. EDWARD GAUL, Evansville, Ind.; WILBERT SACHS, Passaic, N. J.; and PERRY M. SACHS, New York.

These inherited tumors affect notably the nose, especially the nasolabial fold, and are apt to be particularly abundant over the base of the nose. Some of the patients develop tumors that primarily affect the ears, especially the concha. A family was discovered in Indiana with this affliction, and the pedigree of this family will be shown. Over 50 patients have been personally examined, and many of these had the tumors studied histologically. Supplementing the pedigree chart will be a diagrammatic sketch of the genetics of multiple benign cystic epitheliomas and also a presentation of other benign tumors of the nose and ears to be considered in the differential diagnosis.

Your Ear and Noise.

ARAM GLORIG, D. E. WHEELER, and H. P. HOUSE, Subcommittee on Noise in Industry, Los Angeles.

The exhibit is designed to show the relations of hearing loss to noise exposure. It shows (1) a noise analysis graph and description, (2) a diagram of the external and middle ear exposed to an industrial noise, (3) the cochlear spiral, a cross section of the cochlea at the 4,000 cps area, and (4) a typical noise induced hearing loss audiogram. The noise graph, cochlear spiral and cross section, and the audiogram are fitted with colored lights that turn on and off in sequence automatically.

Section on Military Medicine

The representative to the Scientific Exhibit from the Section on Military Medicine is ALLEN D. SMITH, Washington, D. C.

As a special feature, the Section is presenting the Flying Infirmary, which is located on the beach directly in front of Convention Hall.

The Flying Infirmary

The Section on Military Medicine presents as a special feature the Flying Infirmary, located on the beach directly in front of Convention Hall. This is a 36-bed air transportable infirmary that has the basic clinical facilities for surgery, surgical and medical wards, x-ray, laboratory, pharmacy, outpatient clinic, dental clinic, and food service. Equipment and personnel originate with the 7th Tactical Hospital, assigned to the 7th Bombardment Wing (Heavy), Strategic Air Command, Carswell Air Force Base, Fort Worth, Texas. A group of officers and airmen will demonstrate the display, arranged in eight tents. A brochure will be available for distribution, showing the infirmary composition, use, and capability, with additional data of interest. The Group Project Officer is Lieut. Joseph A. Baird Jr.

Radioisotopic Portable Field X-ray Unit.

WILLIAM W. COX, Army Medical Research Laboratory, Fort Knox, Ky., and ELMER A. LODMELL, Office of the Surgeon General, Department of the Army, Washington, D. C.

The exhibit consists of a portable x-ray machine, miscellaneous demonstrations, pictures, and diagrams showing its construction, capabilities, and military significance.

Curative Treatment of Vivax Malaria with Primaquine.

TYRON E. HUBER, Office of the Surgeon General, Department of the Army, Washington, D. C., and RALPH JONES JR., Hospital of the University of Pennsylvania, Philadelphia.

The exhibit presents a graphic description of the natural history of falciparum and vivax malaria together with the results of studies comparing the toxicity and therapeutic activity of primaquine with that of pamaquine and isopentaquine. These studies demonstrate that primaquine is safe for routine administration to large groups of men on land or on shipboard, and that 15 mg. of primaquine daily is highly effective in preventing relapses of Korean vivax malaria, when administered at the time of an acute attack, or when administered before the occurrence of clinical attacks. On the basis of these studies, primaquine was administered to Army troops returning from Korea, starting in 1952, in an attempt to cure malaria before the occurrence of clinical attacks. Data indicating that this was highly effective are presented.

Professional Training Opportunities for Medical Officers in the U. S. Army.

CHARLES L. LEEDHAM, Department of the Army, Washington, D. C.

The exhibit portrays the Army Medical Service Graduate Professional Education Program available to medical officers. This program includes authorized medical specialties and formal training and practice requirements for each specialty; the United States Army hospitals offering training in each residency. The exhibit in addition covers the Army Medical Intern Training Program offered at designated Army hospitals and Army Medical Service Officers Courses offered by the Department of the Army to medical officers.

The Surgical Treatment of Portal Hypertension.

EDWARD J. JAHNKE JR., Walter Reed Army Medical Center, Washington, D. C.

The exhibit consists of color transparencies, x-rays, drawings, and statistical tables that present the methods of diagnosis, surgical treatment, and follow-up studies of 55 patients with portal hypertension.

A Rapid Method for the Determination of Microbial Susceptibility to Antibiotics.

IRVING DAVIS, United States Air Force School of Aviation Medicine, Randolph Air Force Base, Texas.

The exhibit presents the techniques and testing procedures for a rapid method for the determination of microbial susceptibility to antibiotics. The rapid method is evaluated against standard methods.

Blood Vessel Repair and Replacement.

CARL W. HUGHES, Walter Reed Army Medical Center, Washington, D. C.

The exhibit presents the results of repairs of acute vascular injuries from the Korean war as well as results from the experimental use of autogenous, homologous, and heterogenous artery grafts, preserved by various techniques, plus the use of plastic grafts.

Chorioretinal Lesions Due to Thermal Radiation from Atomic Bombs.

DAVID V. L. BROWN and HEINRICH W. ROSE, United States Air Force School of Aviation Medicine, Randolph Air Force Base, Texas.

The exhibit demonstrates the ophthalmoscopic appearance and pathology of chorioretinal lesions due to thermal radiation from atomic bombs.

Hyperventilation.

BRUNO BALKE, United States Air Force School of Aviation Medicine, Randolph Air Force Base, Texas.

The exhibit presents the clinical symptoms of hyperventilation and the correlation between those symptoms and psychomotor responses. It shows a sampling device and method devised for an in-flight evaluation study of the potential incidence of hyperventilation among aircrewmen.

Training in Care of the Ten Most Common Traumatic Injuries.

KLYDE E. KRAFT, Department of the Army, Washington, D. C.

The exhibit consists of transparencies and wound moulages in natural color. It vividly displays the part of the United States Army Medical Service's First-Aid Program. The transparencies show the use of the different types of wound moulages in field training. The wound moulages dramatically resemble guillotine amputation by shrapnel; laceration of vein on hand; perforation of chest and lung by missile; stomach wound by sharp object; compound fracture of tibia; etc. The moulages are designed to simulate actual wounds as confronted by aidmen on the battlefield. They are placed on the assimilated casualties during a field problem. By mechanical means the casualty can cause artificial blood to flow from the wound. The aidman, by application of a bandage, pressure point or tourniquet, can stop the bleeding and administer first aid and treatment.

What Is a Safe Driver?

FREDERICK L. MCGUIRE, Naval Medical Field Research Laboratory, Camp Lejeune, N. C.

The exhibit consists of photographs of serious auto accidents, statistics regarding accidents within the military, and the safe driver inventory, the written test developed for the purpose of establishing the above data, and the possible application of this test to selection of motor vehicle operators both military and civilian.

Late Effects of Internally Deposited Radioactive Materials.

WILLIAM B. LOONEY, U. S. Naval Hospital, National Naval Medical Center, Bethesda, Md.

Four investigations of the late effects of internally deposited radioactive materials have recently been made. The investigation of the late effects of radium salts given orally and intravenously to 50 patients for medical purposes and 28 patients employed as luminous dial workers was made at the Harvard Medical School, the Argonne National Laboratory, and the Massachusetts Institute of Technology. The investigation of the late effects of thorotrast given to 250 patients was made at the Finsen Institute, Copenhagen, Denmark, and the Naval Medical Center, in conjunction with the universities of Utah and Rochester. A summary of the clinical, histopathological, autoradiographic, roentgenographic, radiochemical findings will be presented. Emphasis is placed on the clinical findings that may aid in the diagnosis of internally deposited radioactive materials.

The U. S. S. Bennington Disaster: The Management of Casualties and Treatment of Casualties.

DONALD W. MILLER and HARRY L. HOFFMAN, United States Naval Hospital, Newport, R. I.

This exhibit depicts the medical histories of 74 critically and seriously burned naval personnel treated by the U. S. Naval Hospital, Newport, R. I.

Section on Nervous and Mental Diseases

The representative to the Scientific Exhibit from the Section on Nervous and Mental Diseases is G. WILSE ROBINSON JR., Kansas City, Mo.

Male Fertility Nutrition and Neurosis.

W. HORSLEY GANTT, WM. W. SCOTT, and MAC C. RIENHOFF, Johns Hopkins University School of Medicine, Baltimore.

Male fertility, estimated by deviation erection and sperm count, was studied in relation to nutrition and neurotic conditions. After five days of complete starvation the sperm count was increased rather than decreased and somewhat more increased after 10 days of starvation; with return to normal diet, the sperm count decreased; thus, contrary to usual opinion, acute starvation improves fertility. Neurotic states act in several ways, depending upon the type of animal, they may produce complete impotence, ejaculates praecox, or increased erections. The above facts suggest the least capable may produce the most offspring and are important for world population and sociology.

The Diagnosis and Treatment of Brain Atrophy in Patients Under Forty.

AVERILL STOWELL, Tulsa, Okla.

Slides show the various types of brain atrophy and differentiate between the cerebral, cortical, and cerebellar types. Clinical histories are given, together with actual x-ray films in other cases. A total of 900 cases of brain atrophy are reviewed, 398 of which were treated by surgical procedures.

Results of Temporal Lobectomy for Psychomotor Epilepsy.

ARTHUR A. MORRIS, Washington, D. C.

The exhibit presents preoperative electroencephalograms between attacks, average duration of medical treatment before operation, classification of results, results two to seven years following operation, influence of type of operation upon results, operative and postoperative complications, relationship between side of electroencephalogram focus and operative result, use of medicines following operation, relationship of neurological disorders in the family, and other factors.

Cerebral Arteriosclerosis.

WALTER L. BRUETSCH and CLIFFORD L. WILLIAMS, Central State Hospital and Indiana University School of Medicine, Indianapolis.

The exhibit shows the two major sequelae of cerebral arteriosclerosis, cerebral thrombosis (softening) and hemorrhage, with new viewpoints obtained from histological human material concerning the exact mechanism of arterial occlusion in arteriosclerotic softening of the brain. Emphasis is placed on endothelial proliferation as the causative occluding factor of small vessels, producing "little strokes." Photographs demonstrate the role of fatty deposits (cholesterol) in the occlusive mechanism of large cerebral vessels.

Results of Treatment of Psychotic States with Chlorpromazine.

DOUGLAS GOLDMAN and FRANCES MARION STEPHENS, Longview State Hospital, Cincinnati.

This exhibit summarizes our experience with chlorpromazine in the treatment of more than 800 institutionalized psychiatric patients, using the drug alone as well as to augment electroconvulsive and insulin shock therapies. In general, the results vary from extremely favorable in psychoses of recent origin (0 to 5 years) to satisfactorily palliative in psychoses of long duration (10 or more years). The clinical aspects of this new treatment—patient response, dosage, duration of treatment, side effects and untoward reactions—and its total effect from an administrative point of view are presented.

Psychiatric Services in General Hospitals.

LUCY D. OZARIN, Veterans Administration, Washington, D. C.

The exhibit shows that good medical practice includes the availability of psychiatric diagnosis and treatment and that it is possible to provide such services in the general hospital. The illustrated material enumerates the contributions of psychiatric services in general hospitals, presents representative floor plans and interior photographs of psychiatric services

in 500 and 200-bed general hospitals, shows the composition of the psychiatric team, and outlines pictorially the functions of a psychiatric service, namely, selection of patients, diagnosis, treatment, and disposition. Finally, a brief statistical table shows the operation of psychiatric services in typical 500 and 200 bed hospitals.

Treatment of Tic Douloureux by the Injection of Boiling Water into the Gasserian Ganglion.

RUDOLPH JAEGER, Jefferson Medical College and Hospital, and WILLIAM H. WHITELEY, Wills Eye Hospital, Philadelphia.

During the past two years a technique has been used for controlling the pain of tic douloureux and cancer of the face by the destruction of the gasserian ganglion cells with boiling water. Cases have been purposely selected because of the poor operative risk involved. The results have been equal if not superior to the operative methods of controlling this disorder but requires certain meticulous technical details in order to be successful and avoid complications. The technique and postoperative results are shown by the exhibit.

Management and Rehabilitation of Emotionally Maladjusted Children.

JAMES A. FLAHERTY, Governor Bacon Health Center, Delaware City, Del., and ROBERT L. GATSKI, Danville State Hospital, Danville, Pa.

The exhibit consisting of charts, graphic analysis, and representative case histories reviews the problem and present-day management of severe, chronically disturbed children. It points up the need for early recognition, treatment, and continued interest so necessary for the rehabilitation of such children. Results with chlorpromazine as an adjunct to treatment are presented.

Epidemiological Investigations of Amyotrophic Lateral Sclerosis.

LEONARD T. KURLAND, National Institute of Neurological Diseases and Blindness, U. S. Public Health Service, Bethesda, Md., and DONALD W. MULDER, Mayo Clinic and Foundation, Rochester, Minn.

The exhibit demonstrates the prevalence of amyotrophic lateral sclerosis based on mortality statistics in several American and European countries. Only one in a thousand adult deaths in these countries is due to amyotrophic lateral sclerosis. In the Mariana Islands, on the other hand, 8 to 10% of adult deaths are due to this same cause. Surveys of the peoples of the Western Pacific Islands reveal that only among the Chamorros (natives) in the Mariana Islands was the incidence so high. The disease has long been recognized by these people as an inherited disorder. It is our hypothesis that amyotrophic lateral sclerosis is due to a metabolic defect that is often inherited. The exhibit portrays the worldwide geographic distribution, several selected pedigrees from Guam, North and South America, and Europe. A series of Kodachrome slides reveal that clinically and pathologically the neurological disorder observed among the Chamorro families is the classical form of amyotrophic lateral sclerosis.

Alcoholism.

MARVIN A. BLOCK, Buffalo, N. Y., Committee on Alcoholism of the Council on Mental Health, American Medical Association.

The exhibit deals with the development of alcoholism and the treatment of acute alcoholic intoxication as well as the treatment of chronic alcoholism. Alcoholism as a medical problem is emphasized.

Thrombosis of the Carotid Artery.

MAURICE L. SILVER, Miriam Hospital, Providence, R. I.

With the widespread use of cerebral angiography, the diagnosis of carotid artery thrombosis is appearing with greater frequency. This condition explains the appearance, in the age group 30-50, of progressive hemiplegia with or without aphasia. Typical cases are presented, and the characteristic x-ray pictures are demonstrated. The etiology and pathology are discussed, and the treatment by medical and surgical means presented. Beneficial results following resection of the superior cervical ganglion would appear to warrant further trial of this therapy.

Pharmaceutical Treatment of Patients with Senile Brain Changes.

LEOPOLD HOFSTATTER, ABEL OSSORIO, BILLIE MANDL, LOUIS H. KOHLER, ANTHONY K. BUSCH, and ANN HYMAN, St. Louis State Hospital, St. Louis.

Effects of treatment by various drugs and drug combinations in a group of senile patients of the St. Louis State Hospital are presented. The study is the result of continued efforts of the psychiatric and psychological team. The results are reported in terms of psychological observations and behavior changes during treatment. The rationale of the administration of drugs selected is shown graphically.

Drugs and the Brain.

HAROLD E. HIMWICH, LESTER H. RUDY, and FRANCO RINALDI, Galesburg State Research Hospital, Galesburg, Ill., and RAYMOND C. POGGE, Cincinnati.

The exhibit consists of drawings, tables, and electroencephalographic records of two types of studies. The first is a clinical evaluation of the newer drugs now used in the treatment of anxiety, depression and for disturbed psychotic patients, as well as against Parkinsonism. The second part of the exhibit is concerned with fundamental studies which cast light upon the mechanism of cerebral action of these drugs, including Meratran, Frenquel, reserpine, chlorpromazine, atropine, and other anti-Parkinson drugs.

The Clinical Basis of Parkinson Therapy.

LEWIS J. DOSHAY and WILLIAM AMOLS, Columbia-Presbyterian Medical Center, New York.

The exhibit provides better insight into the rationale of Parkinson therapy. It portrays the effects of drugs on the symptoms of Parkinsonism, by means of new methods of electronic recording, and illustrates the changes effected in the different types of Parkinson's disease, by various therapeutic procedures. The method of administration, posology, actions, and side-effects of scopolamine, diphenhydramine, cycrimine, trihexyphenidyl, ethopropazine, benztropine, reserpine, chlorpromazine, and other compounds are described, singly and in combination. A plan for the proper orientation and management of the patient is provided, along with practical measures of psychotherapy. Physical therapy is presented in its broadest aspects. The indications for surgical therapy obtain attention.

Mental Disorders in the United States: Some Indications of the Size and Scope of the Problem.

WILLIAM P. SHEPARD, EARL C. BONNETT, and HERBERT H. MARKS, Metropolitan Life Insurance Company, New York.

Charts show (1) current statistics and trends in prevalence, incidence and hospitalization of mental disorders, and hospital facilities available for their treatment; (2) the short-term and long-range outlook for persons with mental disorders; and (3) an outline of major community needs and trends relating to care of persons with emotional or mental disorders. The exhibit brings out the extent to which the steady increase in the number of patients hospitalized for mental disease is accounted for by the growth of the population, especially of older persons, by the reduction in mortality of these patients, and other factors. It also presents the results of new research into the longevity of persons with mental and personality disorders.

Section on Obstetrics and Gynecology

The representative to the Scientific Exhibit from the Section on Obstetrics and Gynecology is FREDERICK H. FALLS, Chicago.

Female Sterility.

FREDERICK H. FALLS and CHARLOTTE S. HOLT, University of Illinois College of Medicine and Illinois State Department of Public Health, Chicago.

The exhibit consists of charts, drawings, medical sculptures, and plastic carvings illustrating the etiology, diagnosis, and treatment of the various phases of human sterility problems. The sculptures are to scale and actual instruments add realism to the visual educational presentation. The male factors are depicted as would be considered by the obstetrician in his contact with a patient from the laboratory standpoint.

Fertility Control by Oral Agents: A Contemporary Survey.

CARL G. HARTMAN, NATHAN MILLMAN, and FREDERICK M. ROSEN, Ortho Research Foundation, Raritan, N. J.

The oral control of conception has been approached with several chemical agents and plant extractives, and reports in scientific publications have been followed by dubious widespread publicity in lay periodicals. Suggested methods are examined in the light of physiological activity, effectivity, and safety. Criteria and methods of laboratory screening for such agents are described.

Photography of the Uterine Canal in the Living.

WILLIAM B. NORMENT and C. HENRY SIKES, Greensboro, N. C.

This is the first demonstration of photography of tumors of the uterine canal in the living. The uterine canal is the only hollow-viscus or aperture that has not been photographed previously. The photography of the uterine canal is a very simple procedure, and the exact technique is demonstrated as done through a water hysteroscope.

Tridimensional Pelvimeter Based on Geometric Concepts.

BENJAMIN LEFF, University of Pennsylvania Graduate School of Medicine and Albert Einstein Medical Center, Philadelphia.

An instrument for clinical pelvimetry based on a practical application of mathematical concepts is demonstrated. Clinical values compared with x-ray pelvimetry are presented.

Newer Concepts in the Management of Infertility Problems and Hysterosalpingography.

ALLAN PALMER, San Francisco.

The exhibit shows normal and abnormal gynecologic findings of the uterus and tubes, rate of absorption of Ethiodol from the peritoneal cavity, and the importance of the 24 hour film in hysterosalpingography. There is a small demonstration of the viscosity of Ethiodol as compared with other radiocontrast mediums. There are charts and tables showing percentage success rates for the therapeutic benefits of this procedure in the treatment of the infertile female. Basal body temperature graphs demonstrating normal and abnormal menstrual cycles will be exhibited.

Cerebral Blood Flow and Metabolism in Toxemia of Pregnancy.

MILTON L. MCCALL, Louisiana State University School of Medicine, New Orleans.

This exhibit depicts the results of quantitative studies upon the brain in toxemia of pregnancy as well as normally pregnant and nonpregnant individuals. The effects of several sedatives and vasodilators upon blood flow, oxygen metabolism, vascular resistance, and respiratory quotient of the brain are shown. The clinical implications of these findings are stressed.

Ureteral Injuries.

HENRY C. FALK and IRVING A. BUNKIN, Beth Israel Hospital, New York, and SAMUEL H. KAGEN, Augusta, Maine.

The anatomy of the ureter and its relationship to the uterine artery and the various structures in the pelvis are shown. The relationship of the ureter to the two ligatures on the uterine artery at the time of doing total abdominal hysterectomy is shown, as well as the method of dissecting out the ureter so as to expose it through its entire length. The relationship of the ureter to pathological conditions such as fibroids, ovarian cysts, tubovarian abscesses and how injury to the ureter can be avoided in handling these pathological conditions is also presented. The relationship of the ureter to the uterine artery during a vaginal hysterectomy is included, and how injury to the ureter can be avoided. Should the urter be injured in the course of the operative procedure, drawings show how it can be repaired.

Cesarean Section Techniques and Prevention of Postoperative Enterocele.

EDWARD G. WATERS, Jersey City, N. J., and LEON SCHLOSSBERG, Johns Hopkins University, Baltimore.

The exhibit presents a pictorial description of low transperitoneal cervical segment cesarean section and supravesical extraperitoneal cesarean section techniques. Descriptive pictures (drawings) of technique for prevention of enterocele following vaginal hysterectomy are shown.

The Nutritional Rehabilitation of Patients with Gynecologic Malignancies.

WILLIAM L. SMILEY, EMMETT J. CONRAD, and LESLIE F. BOND, Homer G. Phillips Hospital and Washington University, St. Louis.

Many patients with gynecologic malignant lesions enter the hospital extremely malnourished, others suffer severe loss of weight while under treatment that has included both radiotherapy and surgery. Often because of the vicious cycle of anorexia, which begets malnutrition, which in turn enhances anorexia, such patients are often unable to care for themselves and require hospitalization. The exhibit is a graphic representation of four years' experience in correcting the malnutrition associated with gynecologic malignant disease. The method used was hyperalimentation utilizing an indwelling small bore polyvinyl gastric tube. Appropriate laboratory and clinical data are presented along with detailed instructions as to its practical applications. A majority of patients following relatively short periods of hyperalimentation were eating well and active. Many were able to return to their homes and all required less narcosis and were less of a nursing problem.

Colposcopy: Educational Value and Role in Early Detection of Cervical Cancer.

LEWIS C. SCHEFFEY, WARREN R. LANG, GABRIEL TATARIAN, Jefferson Medical College and Hospital, Philadelphia, and ALBRECHT SCHMITT, Universitäts-Frauenklinik, Cologne, Germany.

This exhibit consists of a brief outline of the principles underlying colposcopy and the use of the colposcope. It also contains a pictorial summary of findings with the normal and abnormal cervical changes, including early cervical cancer. Our own experiences are summarized.

Cervical Carcinoma in Situ: Difficulties in Differential Diagnosis.

JACOB HOFFMAN, Jefferson Medical College Hospital, Philadelphia.

Charts and posters present the histological findings among more than 10,000 cervical biopsy specimens. Particular emphasis is placed on those specimens fulfilling the accepted cytological criteria for group O carcinoma or carcinoma in situ. The associated clinical findings and follow-up records of these cases are tabulated and a possible etiological role of inflammatory processes, pregnancy, and other hyperhormonal states is suggested. To demonstrate the practical difficulties in the differential diagnosis between true early malignant and benign carcinomimetic lesions, their respective cytological and other characteristics are listed and microphotographs of sections from both types of cases are presented. Histological differences, which may aid in the differential diagnosis, are pointed out.

Photocolposcopy.

LEOPOLD Z. GOLDSTEIN, EDWARD VINER, HARRY B. ROITMAN, and LILLIAN BALTER, Albert Einstein Medical Center, Southern Division, Philadelphia.

Photographs of normal and abnormal cervices, in pregnant and nonpregnant patients are shown. The Hinselmann colposcope (Moller, Holstein, Hamburg, West Germany) was used in this study. The appearance of the cervix before and after biopsy and/or electrocoagulation is presented.

Early Cervical Carcinoma: Types of Growth and Development.

AUGUST F. DARO, WALTER SCHILLER, HARVEY A. GOLLIN, and ERNEST G. NORA JR., Chicago.

Carcinoma in situ and primarily invasive carcinoma, including spray carcinoma, are demonstrated. The primary invasive carcinomas are lesions that do not reveal surface pathology in the early stages. This permits negative Papanicolaou and Schiller tests.

Reduction of Maternal and Fetal Mortality by Adequate Management of Labor.

R. E. NICODEMUS, L. F. RITMILLER, I. L. MESSMORE, and H. R. DAILEY, Geisinger Memorial Hospital and Foss Clinic, Danville, Pa.

The exhibit shows the management of the patient while in labor and some of the complications that may arise during labor and how they are managed. A reduction in maternal and fetal mortality can be accomplished by the constant attendance of the obstetrician during labor and delivery. A well-planned department of obstetrics with modern equipment is also an important prerequisite in reduction of maternal and fetal mortality.

New Concepts in Diagnosis and Treatment of Toxemia of Pregnancy.

FRANK A. FINNERTY JR., Georgetown Medical Center, Washington, D. C.

The first prerequisite for intelligent management, therapy, and long-term prognosis of any disease is accurate diagnosis. Recent observations on 820 patients followed in the toxemia clinic of the District of Columbia General Hospital have shown that hypertensive vascular disease and pyelonephritis frequently masquerade as toxemia of pregnancy. Studies by the author have shown that differentiation between pure toxemia of pregnancy and hypertensive vascular disease is apparent by examination of the retinas. Thirty patients with albuminuria and edema were found to have pyelonephritis documented by microscopic urinalysis and urine culture. Therapy with appropriate antibiotics promptly resulted in clearing of the toxemia in these cases. Though 95% of the patients referred to the clinic by the obstetricians were originally diagnosed as having toxemia, only 14% actually had toxemia by our criteria. The indications and contraindications of hypotensive therapy in early and late toxemias, the proper selection of agents, and the indications for hospitalization and/or induction of labor will be presented in light of the above.

A New Frontier in Private Practice.

A. CLAIR SIDDALL, Oberlin, Ohio.

Attention to individual preventive medicine constitutes a new frontier in private practice. A report is given of an 11 year investigation in which presumably well women were given semiannual examinations, with the focus of interest on the early detection of cancer. Three thousand fifteen examinations have been made on 1,428 women, and 20 cancers have been found, along with 540 benign lesions. Problems of nutrition, work, recreation, rest, marital relations, and minor psychiatric disturbances were considered and treated, thus carrying out individual preventive medicine in the private practice of gynecology.

Variation in Depth of Implantation of the Human Ovum.

RICHARD TORPIN, Medical College of Georgia, Augusta, Ga.

The exhibit depicts placentation of five hypothetical variations in depth of nidation of the human ovum, each of which results in a distinct type of placenta. Relative percentage figures for each type have been worked out based upon water distention of the fetal, term and abortion, sacs partially

submerged in a tank of water. The relationship of the excessively deep implantations to spontaneous abortion or to premature separation of the placenta is demonstrated. In addition explanation of bilobation, which occurs in 8% of all pregnancies, becomes quite apparent.

Technique Employing Oxytocics in the Third Stage of Labor.

HERSCHEL S. MURPHY, Rahway Hospital, Roselle, N. J.

The exhibit depicts the chemistry of oxytocics and their application to the process of labor. A description of labor processes is presented along with postpartum treatment. Statistics of cases are evaluated in view of the various types of deliveries.

Current Practical Gynecology.

WALTER J. REICH and MITCHELL J. NECHTOW, Chicago Medical School, Cook County Hospital, and Cook County Post-Graduate School, Chicago.

This exhibit deals with problems as they arise in everyday practice of gynecology, be they in general practice or in a specialty. It also deals with the diagnosis, differential diagnosis, and management of conditions in children (pediatric), in adolescents or teen-agers, in childbearing women, in geriatric patients, and psychosomatic problems. Acute and chronic gynecologic conditions requiring surgery are discussed, in differential diagnosis.

Section on Ophthalmology

The exhibit committee of the Section on Ophthalmology consists of WILLIAM F. HUGHES JR., Chicago, Chairman; WALTER H. FINK, Minneapolis; and DONALD J. LYLE, Cincinnati.

The Use of Radioactive Phosphorus (P-32) in the Diagnosis of Tumors of the Eye and Its Adnexa.

IRWIN S. TERNER, I. J. EISENBERG, and I. H. LEOPOLD, Wills Eye Hospital, Philadephia.

The exhibit describes the rationale, technique, and results in over 250 cases where the uptake of radioactive phosphorus was employed as an aid in diagnosis in tumors of the eye and its adnexa. Charts, graphs, and Kodachrome photographs will demonstrate the results obtained with the test. A large, plastic model-eye containing various concentrations of radioactive phosphorus will be placed near a radioactive monitor so that the technique of the test may be demonstrated to interested viewers with the use of a Geiger-Muller tube.

Pupillography: Method and Diagnostic System.

OTTO LOWENSTEIN, Institute of Ophthalmology, New York, and National Institute of Neurological Diseases and Blindness, Bethesda, Md.

Damage to the sympathetic or parasympathetic centers or pathways that normally control the iris results in changes from the normal pupillary reflex pattern. The type of change is characteristic of the site of the lesion. Therefore, accurate recording of pupillary movements permits detection of pupillary pathology and localization of the causative lesion. A survey is given on the development of pupillographic methods and results during the last 30 years, stressing the following subjects: (1) laws of normal pupillary innervation, fatigue and recovery, aging, and pharmacodynamics; and (2) modifications of the reflex pattern due to lesions in the optic nerve, optic chiasm, optic tract, anterior midbrain, certain areas of the interbrain, cervical cord, and peripheral sympathetic chain. Clinical cases are analyzed.

Toxoplasmosis.

RALPH W. RYAN, LEON JACOBS, MARYJANE K. COOK, WILLIAM M. HART, JAMES F. O'ROURKE, GILBERT ISER, and JOHN J. CULLIGAN, National Institutes of Health, Bethesda, Md.

The exhibit shows primarily the ocular manifestations of toxoplasmosis, with a review of the systemic disease forms. It also depicts various diagnostic tests for toxoplasmosis by means of color drawings, as well as color illustrations showing the biology and epidemiology of the parasite and the geographical distribution of the disease.

A New Concept of the Development of the Angle of the Anterior Chamber of the Human Eye.

H. M. BURIAN, ALSON E. BRALEY, and LEE ALLEN, University Hospitals, Iowa City.

Histological evidence is presented to show that the chamber angle opens normally by cleavage between two distinct layers of mesodermal tissue rather than by atrophy of any appreciable amount of embryonic tissue, as was formerly believed. The cleavage is due to unequal growth of the structures involved. The term "mesodermal remnants" is therefore undesirable as applied to anomalous appearances of tissue in the angle. Among the causes leading to developmental glaucoma are incomplete cleavage and poor differentiation and organization in the trabecular region. Prominent anterior border-rings of Schwalbe and pectinate ligament strands that, in extreme cases, constitute the embryotoxon corneae posterius (Axenfeld) are shown to appear in embryonic and fetal eyes in percentages comparable to those found in adult eyes. They are seen to result from cells, laid down in the embryo, that are excessive to the requirements of the normal human eye.

The Corneal and Retinal Meridians in True and False Torsion.

JOSEPH I. PASCAL, New York Polyclinic Medical School and Hospital, New York.

Under certain conditions the eyes in their primary position undergo a wheel like rotation about the anteroposterior axis. This is termed true torsion and embraces cyclophoria and cyclotropia. In this movement the vertical and horizontal meridians of the cornea and of the retina rotate in the same direction. When the eyes move into an oblique secondary position there results an inclination of the corneal and retinal meridians termed false torsion. There has been some controversy as to whether in false torsion the corneal and retinal meridians tilt in the same direction or in opposite directions. This exhibit shows that they tilt in the same direction, though possibly to an unequal degree.

Changing Problems in Prevention of Blindness.

FRANKLIN M. FOOTE and C. EDITH KERBY, National Society for the Prevention of Blindness, Inc., New York.

The results of statistical studies show the effectiveness of prevention procedures to date as well as the continuing need for research, education, and services to effect an over-all reduction in the incidence of blindness.

Congenital Blindness: Clinical and Pathological Study.

AELETA N. BARBER, G. P. HODGE, and R. J. MUELLING JR., Louisiana State University School of Medicine and Charity Hospital of Louisiana, New Orleans.

The exhibit shows illuminated view boxes containing colored transparencies illustrating the histopathology of various types of congenital abnormalities of the eye. In many instances, illustrations of the normal development of the eye are used to indicate the time at which the abnormality occurred.

Specific Clinicopathological Types of Granulomatous Inflammation.

LORENZ E. ZIMMERMAN and JOHN H. BICKERTON, Armed Forces Institute of Pathology, Washington, D. C., and HELENOR CAMPBELL WILDER, San Francisco.

The exhibit demonstrates that specific types of granulomatous inflammation fall into two groups. One of these includes the various infectious diseases in which the specific etiological agents are demonstrable in the tissues by histopathological or microbiological techniques (bacteria, fungi, protozoa, and helminths). The other group includes those entities in which the diagnosis is based on a combination of a typical clinical syndrome and characteristic histopathological changes (sarcoidosis, rheumatoid diseases, sympathetic ophthalmia, etc.).

Section on Orthopedic Surgery

The representative to the Scientific Exhibit from the Section on Orthopedic Surgery is J. VERNON LUCK, Los Angeles.

Characteristics of the Cloverleaf Medullary Nail.

RALPH SOTO-HALL, NEIL P. MCCLOY, and JACK L. STEIN JR., University of California School of Medicine, San Francisco.

The exhibit presents a clinical and experimental study of the causes of bending and breakage of nails, the response of the medullary cavity to their introduction, properties of immobilization, and clinical suggestions for avoiding the various common complications.

Plasma Cell Myeloma.

NORMAN L. HIGINBOTHAM, BRADLEY L. COLEY, and KENNETH C. FRANCIS, Memorial Hospital, New York.

A total series of 200 cases of plasma cell myeloma has been recently evaluated and is herewith presented. Statistical analysis as to incidence, relative frequency, age incidence, differential diagnostic problems, and therapy is evaluated on charts and illustrated with photographic reproduction of x-rays, gross specimens, and photomicrographs. Stress is placed on the new use of Urethane in the treatment and an analysis of comparative results.

Toward Better Bracing.

AUGUSTUS THORNDIKE, EUGENE F. MURPHY, and ANTHONY STAROS, Veterans Administration, Washington, D. C.

The exhibit contains information on recent developments in leg and arm bracing, including principles of bracing, better materials, testing, live demonstrations, machine testing of various devices, the Prosthetic Testing and Development Laboratory developments, and information beneficial to the physician in prescribing, fitting, and evaluating the usefulness of individual bracing of upper and lower extremities.

Lumbar Traction Therapy and Dissipated Force Factors.

BERNARD JUDOVICH, GOLDA R. NOBEL, and L. RICHARD SCHUMACHER, Graduate Hospital, Philadelphia.

This exhibit comprises a study criticizing methods of lumbar traction therapy. Physical evidence is presented to show that hanging weight traction either by pelvic belt or Buck's extension has no stretch effect whatsoever on the lumbar spine or its surrounding structures; this weight is completely neutralized or dissipated because of surface traction resistance of the lower body segment. Factors that create and modify surface traction resistance are presented. The dissipated force factors (the amount of weight needed to overcome surface traction resistance) for total body weight, and body segments, as obtained from the cadaver and live subjects are shown. This dissipated force is calculated as a per cent of body weight. Present methods of constant weight traction therapy are completely without effect as a stretch force and cannot possibly affect the soft structures surrounding the lumbar spine. A method is presented to eliminate surface traction resistance of the body segments.

Legg-Perthes Disease and Physical Development.

EDGAR L. RALSTON, Philadelphia.

The exhibit shows the radiographic relationship between Legg-Perthes disease and skeletal maturation, with representative cases to demonstrate this feature. Charts and diagrams also show a group of cases followed for the past seven years demonstrating the relationship between Perthes disease and skeletal age, relationship to physical development of growth and height, and of thyroid activity as determined by the serum-protein-bound iodine.

Transarticular Fixation of Interarticular Fractures.

ERNST DEHNE, ROBERT E. FEIGHNY, and JOHN KEYES, Letterman Army Hospital, San Francisco.

The exhibit shows results of the treatment of nonunions of the carpal scaphoid, presenting the original injury, the end-result by x-ray, and the range of motion.

Iproniazid-Marsilid in the Treatment of Bone and Joint Tuberculosis.

DAVID M. BOSWORTH, J. W. FIELDING, LAWRENCE DEMAREST, and MARIO BONAQUIST, St. Luke's and Sea View Hospitals, New York.

The exhibit shows photographs of tuberculous bone and joint lesions before, during, and after Iproniazid therapy, with transparencies of x-rays of the same patients. A few tables are presented of toxicities, benefits, and results. The above are mounted on four panels.

The Artificial Limb and Brace Technician of Today.

GLENN E. JACKSON and LESTER A. SMITH, American Board for Certification, Washington, D. C.

There has been a revolutionary change in the training, attitudes, and skills of the men who only a few years ago were known as and limited as brace fitters; limb fitters. The exhibit points out the changes to the physician and outlines his recourse in the event of unethical or unsatisfactory service.

Section on Pathology and Physiology

The Section on Pathology and Physiology is cooperating in the *Special Exhibit on Fresh Tissue Pathology*. The representative to the Scientific Exhibit is FRANK B. QUEEN, Portland, Ore.

Special Exhibit on Fresh Tissue Pathology

The Special Exhibit on Fresh Tissue Pathology is presented by the Section on Pathology and Physiology with the cooperation of numerous individual pathologists. Various hospitals and laboratories in Philadelphia and Atlantic City are assisting with specimens of outstanding interest as well as of teaching value.

Demonstrations will be conducted continuously with a large corps of pathologists on duty at all times, including guest demonstrators.

A local committee is in general charge of the exhibit and is composed of the following members:

A. REYNOLDS CRANE, Pennsylvania Hospital, Philadelphia, chairman.

MILTON ACKERMAN, Atlantic City Hospital, Atlantic City, N. J., co-chairman.

ERNEST E. AEGERTER, Temple University Medical School, Philadelphia.

HENRY BRODY, Albert Einstein Medical Center, Northern Philadelphia.

CLARK E. BROWN, Lankenau Hospital, Philadelphia.

R. PHILLIP CUSTER, Presbyterian Hospital, Philadelphia.

J. PAUL DECKER, Pennsylvania Hospital, Philadelphia.

WILLIAM E. EHRICH, Philadelphia General Hospital, Philadelphia.

PETER A. HERBUT, Jefferson Medical College, Philadelphia.

ROBERT C. HORN JR., Hospital of the University of Pennsylvania, Philadelphia.

FRANK B. LYNCH JR., Philadelphia.

C. GEORGE TEDESCHI, Hahnemann Medical College, Philadelphia.

The Advisory Committee, consisting of officers of the Section on Pathology and Physiology, is as follows:

FRANK B. QUEEN, Portland, Ore., chairman.
ROGER D. BAKER, Durham, N. C.
EDWIN F. HIRSCH, Chicago.
S. A. LEVINSON, Chicago.
LALL G. MONTGOMERY, Muncie, Ind.

Demonstrations will be conducted simultaneously throughout the week, with six or eight different demonstrations progressing simultaneously. Guest demonstrators include nationally known pathologists who will serve on the following schedule for one hour periods:

Monday, June 6

9:00 to 11:00 JOHN B. HOLYOKE, Hanover, N. H.
CHARLES BLUMSTEIN, Lima, Ohio.

11:00 to 1:00 BJARNE PEARSON, Detroit.
JOSEPH OHLMACHER, Sandusky, Ohio.

1:00 to 3:00 R. C. WADSWORTH, Bangor, Maine.
E. A. DRESKIN, Greenville, S. C.

3:00 to 5:00 JOHN D. ALLEN, Louisville, Ky.
MERLIN TRUMBULL, Memphis, Tenn.
FRITZ LEVY, Huntington, W. Va.

Tuesday, June 7

9:00 to 11:00 HERBERT LUND, Greensboro, N. C.
DAN M. QUEEN, Houston, Texas.
HERMAN FISCHER, Clarksburg, W. Va.

11:00 to 1:00 ROBERT BRILL, Passaic, N. J.
CASPAR G. BURN, Troy, N. Y.
WAYNE A. GEIB, Rapid City, S. D.

1:00 to 3:00 O. B. HUNTER JR., Washington, D. C.
PAUL C. DIETZ, LaCrosse, Wis.

3:00 to 5:00 WILLIAM W. HURTEAU, Memphis, Tenn.
JOHN W. ADAMS, Chattanooga, Tenn.

Wednesday, June 8

9:00 to 11:00 ROY N. BARNETT, Norwalk, Conn.
GEORGE FETTERMAN, Pittsburgh.

11:00 to 1:00 TOBIAS WEINBERG, Baltimore.
W. J. TOMLINSON, Jacksonville, Fla.
J. N. OWENS JR., Oklahoma City.

1:00 to 3:00 ASHER YAGUDA, Newark, N. J.
C. HAROLD JOHNSON, Gettysburg, Pa.
SAMUEL S. ZUCKERMAN, Cheyenne, Wyo.

3:00 to 5:00 WILLIAM G. BERNHARD, Newark, N. J.
RICHARD A. CALL, Provo, Utah.
DAVID SKINNER, Newton Lower Falls, Mass.

Thursday, June 9

9:00 to 11:00 — Thomas M. Peery, Washington, D. C.
George J. Heid Jr., Altoona, Pa.

11:00 to 1:00 — Lee N. Foster, Indianapolis.
Thomas J. Moran, Pittsburgh.
G. J. Copeland, Clifton Springs, N. Y.

1:00 to 3:00 — Norman W. Elton, Army Chemical Center, Md.
A. J. Rawson, Norfolk, Va.

3:00 to 5:00 — Frank H. Tanner, Lincoln, Neb.
William D. Dolan Jr., Arlington, Va.
Richard E. Palmer, Alexandria, Va.

Friday, June 10

9:00 to 11:00 — Alfred Golden, Williamsville, N. Y.
Richard Neale, Bluefield, W. Va.
Herbert Fanger, Providence, R. I.

Other pathologists who will assist with the demonstrations include the following persons:

Milton Ackerman, Atlantic City, N. J.
Ernest E. Aegerter, Philadelphia
Edward Albano, East Orange, N. J.
G. E. Aponte Jr., Philadelphia
James B. Arey, Philadelphia
Henry Brody, Philadelphia
Clark E. Brown, Philadelphia
C. H. Catanzaro, Bryn Mawr, Pa.
Margaret T. Collins, Philadelphia
Albert Couston, Camden, N. J.
V. N. Damodaran, Philadelphia
J. Paul Decker, Philadelphia
John M. Dolphin, Philadelphia
John W. Eiman, Philadelphia
H. T. Enterline, Philadelphia
E. A. Everts, Philadelphia
Gresshon Ginsberg, Philadelphia
Charles Q. Griffith, Philadelphia
Stephen M. Hanson, Philadelphia
William W. Hersohn, Atlantic City, N. J.
Decran Kassonny, Philadelphia
R. Chewhoong Lee, Philadelphia
Clarence L. Lehman, Philadelphia
M. M. Lieber, Philadelphia
T. J. Ludden, Phoenixville, Pa.
Frank B. Lynch Jr., Philadelphia
Halvey E. Marx, Philadelphia
J. F. McCloskey, Philadelphia
William V. McDonnell, Philadelphia
John J. Moran, Philadelphia
Roger O'Gara, Philadelphia
Barbara J. Owen, Philadelphia
K. C. Pani, Philadelphia
Howard Rawnsky, Philadelphia
William T. Read Jr., Camden, N. J.
T. K. Rathmell, Trenton, N. J.
Martin Rush, Long Branch, N. J.
Toby E. Silverstein, Philadelphia
Hubert C. Swartout, Philadelphia
Paul Y. Tamura, Philadelphia
LeGrand H. Thomas, Allentown, Pa.
Anthony V. Torre, Philadelphia
Charles N. Wang, Philadelphia
Irving Young, Philadelphia

Illustrations of the Liver in Health and Disease.

Frank H. Netter and Hans Popper, Hektoen Institute for Medical Research of Cook County Hospital, Chicago.

Colored drawings illustrate the structure and function of the liver under normal and abnormal circumstances, with particular emphasis upon clinical aspects. These visualize the gross and microscopic distribution of vessels and bile ducts with variations and abnormalities, the gross and microscopic changes of the liver in various diseases, and the clinical and functional significance of such features like jaundice. Furthermore, the physiological basis and clinical implication of hepatic tests and their correlation with structural changes are depicted.

Vascular Occlusive Lesions in Sickle Cell Disease.

Colin F. Vorder Bruegge, Armed Forces Institute of Pathology, Washington, D. C., and L. W. Diggs, University of Tennessee College of Medicine, Memphis, Tenn.

The nature of sickle cell hemoglobin and the relation of S hemoglobin to the other abnormal hemoglobins is summarized by photographs, diagrams, and charts on the hereditary aspects of sickle cell disease. The pathological physiology associated with the sickling phenomenon is discussed. Various stages of the occlusive vascular phenomena and representative lesions occurring in different organs are presented. Both gross and microscopic changes are illustrated.

Myocarditis: A Frequent Complication in Systemic Disease.

William C. Manion, Armed Forces Institute of Pathology, Washington, D. C.

The exhibit will include representative photomicrographs of the myocardial changes found in a number of diseases such as (*a*) postinfectious myocarditis—postbacteria, postrickettsial, and postviral; (*b*) fungous diseases involving the myocardium; (*c*) parasitic diseases involving the myocardium; (*d*) collagen diseases involving the myocardium; and (*e*) metabolic and physical diseases involving the myocardium. A brief discussion of the pathology of each group is discussed in a pamphlet in the reading table of each group.

The Care of Laboratory Animals.

N. R. Brewer, American Veterinary Medical Association, Chicago.

The exhibit stresses the importance of budgeting for individuals with specialized training as managers of animal quarters. It emphasizes the interest that the veterinary profession has in this type of endeavor, and its readiness to cooperate in the solution of problems that are presented. Pictures present important recommended procedures. Leaflets list important diseases of some common laboratory animals. A few animals will be on exhibit, with recommended cage equipment.

Uncommon Types of Heart Disease.

R. O. Brandenburg, J. E. Edwards, and T. J. Dry, Mayo Clinic and Mayo Foundation, Rochester, Minn.

The causes of heart disease are numerous and varied, but approximately 97% are of hypertensive, coronary, or rheumatic origin. Congenital anomalies of the heart constitute about 1% of cardiac disease. There remains a very small group of patients in whom heart disease develops as a result of conditions that are widely diverse and sometimes obscure in origin. The valves, the myocardium, or the pericardium may be involved. The principal manifestation of these rare cardiac disturbances may be difficult to distinguish from those of the common cardiac diseases. For the sake of convenience these rare types of heart disease may be classified as follows: (1) conditions simulating mitral valvular disease of rheumatic origin, (2) conditions simulating aortic valvular diseases of the usual types, (3) conditions causing myocardial disorders of acute or chronic types, and (4) conditions causing pericarditis of acute or chronic types.

A Simple Rapid and Accurate Method for the Determination of Total Hemoglobin and Oxyhemoglobin.

Theodore E. Weichselbaum, Washington University School of Medicine, St. Louis.

The present clinically feasible methods for the quantitative measurement of total hemoglobin and oxyhemoglobin in blood leave much to be desired. To meet this difficulty, a new method has been devised. This method does not involve any volumetric measurements (e. g., pipetting) or dilution of the blood sample, and the procedure is believed to be so simple that just as accurate results can be obtained by an untrained person as by a highly skilled technician. The method is a photometric procedure adaptable to any presently commercially available instrument.

The Problem of Subclinical Rheumatic Carditis.

C. George Tedeschi, Bernard M. Wagner, and K. C. Pani, Division of Pathology and Cardiovascular Research Institute, Hahnemann Medical College and Hospital, Philadelphia.

Four hundred auricular appendages removed at surgery in patients with rheumatic valvular disease have been evaluated according to morphological and histochemical methods. Postoperative deaths have allowed for correlation of ventricular pathology with the appendages. Several fatal cases of acute rheumatic fever have also been studied by these methods. Clinical correlation is available, including measurements of cardiac size by x-ray. A considerable mass of interesting data have been accumulated that appear to shed new light on the fundamental pathogenesis of rheumatic disease. New concepts concerning the natural history of this malady can now be formulated based on these accumulated and varied observations. This information is of value for the intelligent management of rheumatic fever patients.

Blood Banks.

OSCAR B. HUNTER JR., American Association of Blood Banks, Washington, D. C.

This exhibit shows the doctor, technologist, nurse, and researcher, as well as administrative personnel of hospitals and blood banks, how a good bank can be set up, what it can accomplish, and how the American Association of Blood Banks can be of assistance in the setting up and improvement of the blood bank activities. The details of the National Blood Bank Clearing House are displayed, with the techniques, methods, and procedures for the exchange of blood between different banks throughout the country.

Aspiration Biopsy in Head and Neck Surgery.

WILLIAM G. BERNHARD, W. FRANKLIN KEIM, HAROLD GRUBIN, HELMUT WANNER, and GERHARD SEWEKOW, Hospital of St. Barnabas and for Women and Children, Newark, N. J.

The exhibit illustrates the correlation between aspiration biopsy and surgical material removed at a later date. In addition the technique of aspiration biopsy as applied to head and neck surgery and lymph node diagnosis is shown. The material for this exhibit is taken from a series of over 120 cases with adequate clinical and pathological follow-up. Correlation between the aspiration biopsy and the surgical specimen is emphasized.

Distinctive Tumors of the World.

HUGH R. GILMORE JR., Armed Forces Institute of Pathology, Washington, D. C.; LUCIA DUNHAM and HAROLD L. STEWART, National Cancer Institute, Bethesda, Md.; JACQUES MAY, The American Geographical Society, New York; and PAUL E. STEINER, University of Chicago, the School of Medicine, Chicago.

This exhibit portrays tumors that are related to occupation, race, ethnic groups, social levels, habits and customs, and geographical areas. Examples are mule spinner's carcinoma of the scrotum, Schneeberg carcinoma of the lung, betel nut carcinoma of the mouth, kang carcinoma of the buttocks, bilharzial carcinoma of the bladder, etc.

Experimental Procedures for Inducing Acceptance of Tumor Homografts.

GEORGE D. SNELL, NATHAN KALISS, and ANDREW A. KANDUTSCH, R. B. Jackson Memorial Laboratory, Bar Harbor, Maine.

The main problem of reparative surgery is the hostile reactions set up in the recipient against grafted tissues from a foreign donor. The demonstration shows successful experimental methods used in mice to abrogate their normal resistance to tumor homografts. These methods employ prior injection into the prospective host of suitable tissue preparations or antiserums to the tissues. The main lines of investigation directed toward elucidating the biological mechanisms underlying the induced acceptance of tumor homografts are demonstrated.

Fixation of Radioactive Sulfur by Cartilage, Cartilaginous Tumors and Connective Tissue.

RAYMOND G. GOTTSCHALK, Veterans Administration Center, Martinsburg, W. Va.

The exhibit demonstrates that radioactive sulfur, when injected in patients as sodium sulfate, is selectively fixed by cartilage and by benign and malignant tumors of cartilage (chondromas and chondrosarcomas). The degree of fixation is related to the rate of growth. Radioactive sulfur is also fixed, to a lesser degree, in the ground substance of regenerating connective tissue. These affinities open vistas of new diagnostic, and possibly therapeutic, applications in tumors of cartilage, inasmuch as the radioactive isotope is selectively retained for extensive periods of time in these tissues and rapidly eliminated from the blood.

Thermal Neutron Capture Therapy of Glioblastoma.

JOHN T. GODWIN and E. E. STICKLEY, Brookhaven National Laboratory, Upton, L. I., N. Y.

This exhibit demonstrates the procedure, physics, physiology, clinical features, and pathology of the investigative application of thermal neutron capture therapy employing boron-10 in human glioblastoma multiforme.

Primary Liver Carcinoma and Embryology.

HANS ELIAS, Chicago Medical School, Chicago.

The exhibit consists of photomicrographs and three-dimensional drawings (reconstructions). Hepatocarcinoma develops structures that resemble adult and embryonic livers of lower vertebrates: two-cell thick plates, tubules, cords, murals. Spindle cell tumors of hepatocellular origin are interpreted as true sarcomas, since recent findings indicate that a part of the liver is of mesothelial origin. On the same basis, tumors resembling adrenal cortex and ovary are explained. Ductal tumors can develop from liver cells, but not vice versa. This is explained on the ground that in the embryo ducts arise from liver cells. Numerous normal liver cells are directly transformed into cancer cells simultaneously at various places of one liver. This process of direct transformation is a continuous one and occurs in normal liver cells that are exposed to mechanical pressure in the presence of some other carcinogenetic stimulus.

Bacterial Carcinogens.

GEORGE A. CLARK, Scranton, Pa., and H. H. LEFFLER, Washington, D. C.

This exhibit shows successful cultivation from human malignant lesions as well as successful reproduction of metastatic tumors in guinea pigs and rats. (Sponsored by Cancer Research Foundation, Pittsburgh.)

Pressure Effects of Supratentorial Glial Neoplasms.

BELA HALPERT, WILLIAM S. FIELDS, and CHARLES A. CARTON, Veterans Administration Hospital, Houston, Texas.

The exhibit contains information concerning the effects of increased intracranial tension due to supratentorial glial neoplasms upon the brain substance. It graphically illustrates herniations from one compartment of the cranial cavity into another and its effects on cerebral spinal fluid, circulation, blood supply, and nerves.

A Clinical Pathological Survey of Five Thousand Cancers in the Adult.

ELWYN L. HELLER, Shadyside Hospital, Pittsburgh, and JAMES H. HOUSEHOLDER, Braddock General Hospital, Braddock, Pa.

The exhibit presents the absolute and relative frequency of various cancer types in 5,000 consecutive surgical specimens of malignant tumors collected through a 10 year period. The exhibit includes an analysis of age and sex incidence, the sex predominance of cancer types, the relative frequency of cancer in relation to noncancerous lesions of various organs, the accuracy of frozen section diagnosis, the incidence of multiple malignant lesions and operative mortality rates experienced in the surgical treatment of carcinoma of colon, stomach, pancreas, lung, and esophagus.

Persistent Asymptomatic Single Nodule in the Neck of Adults.

GUSTAVUS H. KLINCK, Armed Forces Institute of Pathology, C. T. KLOPP, George Washington University Hospital, and T. WINSHIP, Garfield Memorial Hospital, Washington, D. C.

The exhibit includes life-size moulages of neck (lateral and anterior views) fitted with invisible but palpable nodules in surgically important regions. Pressure on the palpable nodules activates electric circuits, causing groups of color transparencies to be illuminated. Transparencies represent the lesions, gross and microscopic, that are probable in a given region. Statistical data referring to frequency of lesions in each region are included.

Certification of Medical Technologists.

LALL G. MONTGOMERY and MARIANNE MILLER, Registry of Medical Technologists of the American Society of Clinical Pathologists, Muncie, Ind.

The exhibit shows the function and activities of Board of Registry of Medical Technologists of the American Society of Clinical Pathologists in its work of setting standards for medical laboratory workers and certifying them. Literature, lists of approved schools for medical technologists, statistics on salaries, distribution of registrants, and various other elements pertaining to the general picture of the progress of this phase of medical laboratory work are included.

The Pathology of Unexpected Death in Infancy.

DANIEL STOWENS, Armed Forces Institute of Pathology, Washington, D. C.

The pathological findings in a variety of cases of sudden unexpected death in children are illustrated by photomicrographs. The exhibit will demonstrate the feature common to most of these cases, namely, acute emphysema. A possible reflex origin of this morphological alteration will be indicated. The feature to be emphasized will be that, although the mechanism of action of the reflex involved is as yet poorly understood, the morphological evidence of such action is constant and pathognomonic.

A Medicolegal Symposium.

GEOFFREY T. MANN and GEORGE W. THOMA, State Chief Medical Examiner's Office, Richmond, Va.

The exhibit presents (1) pathology of poisons, depicting the morphological changes produced by various poisons and showing natural disease processes with which they may be confused; (2) techniques of the medicolegal autopsy, highlighting essential procedures for the proper conduct of a medicolegal postmortem examination; (3) a routine medicolegal investigation by a physician medical examiner, which is considered by us to be the very basis of any system undertaking the investigation of deaths subject to legal inquiry.

Pituitary and Adrenal Necrosis in Routine Autopsies.

ALFRED PLAUT, Armed Forces Institute of Pathology, Washington, D. C., and Veterans Administration Hospital, Topeka, Kan.

The exhibit shows necrotic areas found in the anterior lobe of the pituitary gland and in the adrenal cortex of routine autopsy cases. Sketches and accompanying texts demonstrate and discuss the peculiar condition of circulation in both organs and the possible origin and meaning of the necrosis.

Leprosy.

CHAPMAN H. BINFORD, Armed Forces Institute of Pathology, Washington, D. C., and LAWRENCE L. SWAN, United States Public Health Service Hospital, New Orleans.

The exhibit depicts the distribution of leprosy in the United States. Examples of lepromatous, tuberculoid, and indeterminate leprosy are portrayed by clinical photographs in color. The pathological changes in these different types of the disease are shown in colored transparencies. The complications of leprosy are illustrated by use of colored transparencies showing gross and histopathological changes characteristic of this disease.

Clot Density Determination of Fibrinogen in Acute Myocardial Infarction.

SAMUEL LOSNER, BRUNO W. VOLK, and NATHAN D. WILENSKY,† Jewish Chronic Disease Hospital, Brooklyn, N. Y.

The plasma fibrinogen concentration, as determined serially by the clot density method, closely reflects the severity of a myocardial infarction. In the early phase of the disease the fibrinogen concentration, as studied in 50 consecutive cases, mirrored the severity of the clinical condition, while the sedimentation rate frequently was normal or low, particularly in the presence of hemoconcentration. During convalescence the sedimentation rate often remained elevated long after the fibrinogen concentration had returned to normal. Patients with a maximum fibrinogen level exceeding 800 mg. per 100 cc. had a mortality rate of 42%, whereas those with a lesser concentration had only a mortality of 9.7%. The fibrinogen concentration may be utilized as a criterion for the institution of anticoagulant therapy. When the administration of hypoprothrombinemic agents, dicumarol, etc., is controlled with the photoelectric determination of prothrombin time, the clot density determination of fibrinogen is obtained without additional laboratory procedures.

Clinical Evaluation of Bone Marrow Spreads and Bone Marrow Sections.

HARRY AGRESS, ANN LOCKHART, and HARRY N. OFFIELD, Veterans Administration and Jewish Hospitals, St. Louis.

A comparative study of bone marrow sections and spreads in 1,187 patients is presented. Interesting aspects of technique are shown in colored transparencies, as are many clinical conditions. The comparative value of spreads of bone marrow and sections of the same material is stressed. Selected colored transparencies are displayed, emphasizing the value of such comparative studies.

Current Yellow Fever Wave in Middle America.

NORMAN W. ELTON, Chemical Corps Medical Laboratories, Army Chemical Center, Md.

Sylvan (jungle) yellow fever, originating from Eastern Panama in 1948, has been advancing steadily as a wave through Central America toward Mexico at an over-all velocity of 13 miles per month and is now dormant in Northwestern Honduras. Its progress has been predictable, and the next activity is expected in Northern Guatemala about July, 1955. Urbanization of the virus in the gulf settlements of Mexico and the United States will be possible within the next two years unless preventive measures are undertaken. The wave has been monitored by the techniques of pathology.

Role of the Clotting Mechanism in Hemorrhagic Diseases.

ROBERT L. ROSENTHAL, Beth Israel Hospital, New York.

This exhibit summarizes data based on more than 1,500 patients studied in the past seven years on hemorrhagic diseases from the standpoints of clinical aspects, diagnosis, treatment, and prevention. The complexities of the clotting mechanism are simplified in a new scheme. A critical evaluation of tests and measurements used clinically in blood coagulation and for identification of specific clotting factors are presented. Particular attention is devoted to the following entities: (1) hereditary deficiencies in protein clotting factors, including hemophilia and related diseases, such as AHG, PTC, PTA, labile factor, and stable factor deficiencies; (2) circulating anticoagulants; (3) platelet abnormalities—thrombocytopenia, thrombasthenia, and thrombocythemia; and (4) mechanisms of hemorrhage in leukemia, polycythemia, and total body x-irradiation.

† Deceased.

Treatment of Leukemia.

JOSEPH M. HILL, ALICE SMITH, DALCIO FALCO, and ROBERT J. SPEER, Dallas, Texas.

The exhibit shows charts, photomicrographs, radiohistographs, and experimental data on treatment of 54 cases of chronic leukemia with radioactive chronic phosphate-P-32 (colloidal). Charts also show cases of acute leukemia and an analysis of 109 cases treated during the last 5 years. Emphasis is placed on massive hormone therapy, especially 9-alpha-fluorohydro-cortisone and prednisone.

The History of Goiter in Peru, Chile, and the Argentine Republic.

ISIDOR GREENWALD, New York University College of Medicine, New York.

Goiter was not endemic before the coming of Europeans and not for many years thereafter. At first, it was severely localized, and its spread came much later. In Peru and in Chile, it seems to be still extending its range. In some places in the Argentine Republic, diminution was noticed as early as 1805. This change was quite general by 1895. By 1924, the decrease had become so marked that it was not considered necessary to repeat the separate enumeration in the census of that year. Diminution in the incidence of deaf-mutism was recorded in the census of 1895, as compared with that of 1869, and a further decrease in that of 1924. There has been no census or other standard of comparison since 1924, but the impression in 1953 in Mendoza was that deaf-mutism had continued to decrease.

Section on Pediatrics

The representative to the Scientific Exhibit from the Section on Pediatrics is F. THOMAS MITCHELL, Memphis, Tenn.

Poisoning Control Programs.

EDWARD PRESS, GEORGE M. WHEATLEY, New York, and E. H. CHRISTOPHERSON, Evanston, Ill., American Academy of Pediatrics.

The exhibit describes the varying patterns of the organization of poisoning control programs in several different cities, together with sample results from some of them. It also includes the latest revision of the outline guide and manual on accidental poisoning published by the accident prevention committee of the American Academy of Pediatrics.

Nutritional Management of Infantile Allergies with a New Soybean Mixture.

SYDNEY H. KANE, Philadelphia.

The exhibit presents a critical evaluation of a new soybean mixture (formula) prepared by flash sterilization method. The nutritional merit of the soybean formula is demonstrated by growth progress on Wetzel Grids. An analysis of the common infantile allergic symptoms is given, together with the indications for use of the soybean formula. Kodachrome illustrations of typical patients are presented, and reasons for failure of the formula to give desired results are reviewed.

Intermittent Positive Pressure: Aerosol Therapy in Pediatrics.

ROY F. GODDARD, ULRICH C. LUFT, and JAMES CLARE, Lovelace Clinic, Albuquerque, N. Mex.

The clinical use of intermittent positive pressure breathing (IPPB) in pediatrics is presented in a summary of three years' study of children with respiratory problems. Over 100 newborn infants with varying degrees of atelectasis have been resuscitated with high positive pressures. Infants with respiratory complications have benefited from combined intermittent positive pressure-aerosol therapy. The response of older children with asthma, bronchiectasis, bronchitis, chronic coughs, and cystic fibrosis of the pancreas to this type of therapy proves its value as an adjunct in the therapy of pediatric respiratory problems. Evaluation of the effectiveness of IPPB is depicted by means of x-rays, pulmonary function tests, pneumotachographic tracings, and clinical improvement. Each group of children is typified by case presentations.

Angiocardiography in Normal and Abnormal Hearts.

B. M. GASUL, E. H. FELL, H. G. BUCHHELERES, C. J. MARIENFELD, GERSHON HAIT, R. F. DILLON, P. G. SZANTO, and MAURICE LEV, the Hektoen Institute for Medical Research, Cook County Children's Hospital, Presbyterian Hospital, and University of Illinois College of Medicine, Chicago.

This exhibit is based on a seven year study of over 700 separate angiocardiograms selected from 12,000 separate angiocardiographic plates taken mostly on infants and children. Eighteen separate clinical entities are shown. The diagnosis of each separate entity that is being shown is based on a correlative clinical, fluoroscopic, roentgenologic, electrocardiographic, angiocardiographic, and catheterization studies of the heart and great vessels. In most of these patients the diagnosis is still further confirmed

either by surgery or autopsy. The angiocardiographic appearance of the normal heart in various views, and the most important clinical entities of the cyanotic and noncyanotic types of congenital malformations of the heart, are demonstrated.

Reticuloendotheliosos in Childhood.

HAROLD W. DARGEON and LOIS MURPHY, Memorial Center for Cancer and Allied Diseases, New York.

Proliferative reactions of the cells of the reticuloendothelial system occur in a wide variety of pathological states—metabolic, infectious, and neoplastic. The clinical evidences are often typical and recognizable without difficulty. Others may be unusual, and the diagnosis may present formidable problems. Since the prognosis and diagnosis vary, differentiation is of major importance. Examples of lipid and nonlipid varieties—"idiopathic" and infectious—are illustrated, and the therapy, if indicated, is described.

A Di-Syndrome of the Laryngeal Nerve.

CHARLES C. CHAPPLE, Children's Hospital, Philadelphia.

In the confined space within the uterus one fetal part may be held against the uterine wall or against another part for a long enough time that it is altered in shape. Skeletal changes on this basis are familiar. Blood vessels to a part or to the nerve supplying the part may also be affected. An important example is the compression of a branch of the laryngeal nerve or its vessels between the movable thyroid cartilage and (1) the hyoid or (2) the cricoid. This may occur when the head has been flexed while facing a shoulder. This one position, lateral cephalic flexion, can produce unilateral weakness or paralysis of a vocal cord and/or a swallowing muscle. The diagnosis can be established by determining the infant's position of comfort and by direct laryngoscopy. Dyspnea and/or dysphagia are the clinical signs.

Surgical Treatment of Congenital Cardiovascular Anomalies.

WILLIAM L. RIKER, ARTHUR DEBOER, THOMAS G. BAFFES, and WILLIS J. POTTS, Children's Memorial Hospital, Chicago.

The most common congenital cardiovascular anomalies amenable to surgical treatment are patent ductus arteriosus, coarctation of aorta, pulmonary stenosis with and without associated interventricular septal defect, anomalies of the aortic arch, and interatrial septal defects. Transparencies of roentgenograms and diagrams of significant pathological variations of pulmonary stenosis are shown. Embryological mishaps that result in various types of anomalies of the aortic arch are illustrated with moulages. The technique of operative correction of each cardiovascular anomaly is demonstrated by colored illustration and moulages. Facts pertinent to each anomaly, mortality statistics, and clinical results following aortic-pulmonary anastomoses done from six to eight years ago are charted and illustrated.

Systematic Approach to Fluid Balance.

W. D. SNIVELY JR. and R. C. LITTLE, Evansville, Ind.

This exhibit presents in a simplified manner the underlying principles of clinical fluid balance. It provides "knowledge pegs" upon which to hang the multitude of details required for a working knowledge. A descriptive system of diagnosis based on suggestions by Moyer is presented. The basic imbalances include deficits and excesses in volume, concentration, composition, and distribution of the extracellular fluid that reflect intracellular changes. Each deficit and excess is described as to its clinical cause, clinical findings, laboratory findings, and therapy principle. A simple analogy clarifies the use of the milliequivalent. The "meter totter" method of explaining acid-base imbalances, as introduced by Dr. Snively, is employed in this exhibit to explain acid base imbalances. Gains and losses of body fluids are presented pictorially. Electrolyte composition of the several body fluids is charted and compared. The seven major functions of parenteral solutions and the electrolyte content of parenteral solutions as compared to plasma are presented.

Brain Registry.

M. A. PERLSTEIN, MARGARET H. JONES, HERMAN JOSEPHY, and H. W. MAGOUN, American Academy for Cerebral Palsy, Chicago.

The exhibit shows correlation between etiology, clinical syndromes, and pathology in cerebral palsy, using clinical histories and pathological specimens, slides, and x-rays. An attempt is made to show there is specificity between cause and effect in cerebral palsy.

Progress in the Treatment of Epilepsy (Total Management of the Epileptic).

FREDERIC T. ZIMMERMAN and BESSIE B. BURGEMEISTER, Neurological Institute, Columbia-Presbyterian Medical Center, New York.

This exhibit presents the diagnostic tools and therapeutic techniques used in the modern treatment of epilepsy. These include neurological and psychiatric examinations, electroencephalographic recordings, psychological test, standard and new anticonvulsant drugs, and drugs such as reserpine, chlorpromazine, etc. that alleviate trigger mechanisms precipitating convulsive seizures. Case history material is given showing improvement in patients with nonepileptic behavior disorders following anticonvulsant medication and offers data on the relationship between certain behavior syndromes and epilepsy or epileptic equivalents. Correlation of findings stresses the need to broaden the purely neurological approach to include psychological as well as psychiatric aspects of epilepsy, thereby stressing the treatment of the individual as a whole as the most productive and most natural method of therapy.

Seborrheic Dermatitis and Atopic Dermatitis (Eczema) in Infancy and Childhood.

JEROME GLASER and MARYLIN F. SMELZER, University of Rochester School of Medicine and Dentistry and Genesee and Strong Memorial-Municipal Hospitals, Rochester, N. Y.

The exhibit illustrates the essential clinical features that enable a differential diagnosis between these two conditions that are so often confused in this age period. The differential diagnosis is important because seborrheic dermatitis is not an allergic disease; skin testing from the standpoint of allergy is not helpful, and the prognosis is different in that the majority of these patients in later childhood do not develop the respiratory allergies as is the rule in a topic dermatitis.

Bed Side Determination of Blood Water.

KEITH E. KENYON, University of Southern California School of Medicine, and CURT W. GREINER, Greiner Glassblowing Laboratory, Los Angeles.

The exhibit shows the procedure involved in determining the water content of capillary amounts of blood at the bed side using Karl Fischer reagent and a specially designed pipette and portable burette apparatus. Tables and graphs show data so far obtained together with a working model of the equipment needed.

Removal of Swallowed Objects from the Stomach by the Use of Two Magnets.

J. W. DEVINE and JOHN W. DEVINE JR., LYNCHBURG, VA.

A small Alnico V magnet is swallowed on the end of a Levine Tube. This magnet is guided to all parts of the interior of the stomach by using a large twenty pound Alnico V magnet on the outside of the patient's body. A metallic body and the small magnet are brought in contact and then the foreign body is removed by withdrawing the Levine Tube. This can be done as an office procedure without an anesthetic.

Streptococcic Infection in Pediatric Practice.

BURTIS B. BREESE and F. A. DISNEY, University of Rochester School of Medicine and Dentistry, Rochester, N. Y.

The exhibit deals with the diagnosis and treatment of a large number of children infected with beta hemolytic streptococci. Pertinent diagnostic points are given, and the accuracy of clinical impression is discussed. Various treatment schedules are discussed.

Rehabilitation of the Intractable Asthmatic Child.

HAROLD S. TUFT and DANIEL M. KRAUS, Denver, and M. MURRAY PESHKIN, New York.

A graphic representation of the work of the Jewish National Home for Asthmatic Children in the care of the child with intractable asthma is presented. The theory of the production and development of intractable asthma is depicted. The criteria in the diagnosis of intractable asthma and the methods of rehabilitation used at the home are outlined, including a discussion of allergy care; antiasthmatic medication, particularly the spansule type; the group living situation; and the implication of therapy in group living and the psychiatric care by the caseworker technique.

Congenital Aganglionic Megacolon (Hirschsprung's Disease).

JOHN F. MOKROHISKY, Temple University Hospital and School of Medicine, and GEORGE P. KEEFER, St. Christopher's Hospital for Children, Philadelphia.

The exhibit presents roentgenographic classification of congenital aganglionic megacolon (Hirschsprung's disease), locations and appearances of short and long aganglionic segments, and correlation of the roentgenographic and pathological findings. The study is based on a series of 44 cases.

The Pediatrician Examines Mother and Child.

E. ROBBINS KIMBALL, Evanston Infant Welfare Society, Evanston, Ill.

A chart to record physical growth was constructed from the measurements of Stuart from Harvard for the first five years of life and from those of Meredith from the University of Iowa for the age period from 5 to 18 years. Also, various developmental tests were plotted against age. When the child performed, the appropriate test was checked off along the ordinate, and an appropriate remark as to the kind of performance was written in opposite age. When he did not perform, an arrow was marked opposite age, accompanied by a descriptive remark regarding the nature of the techniques of resistance encountered. The principal difference between the use of the chart presented here and that of Arnold Gesell is that the child is considered not as a separate entity, but the mother and child are considered together. Tests have also been changed to gain speed.

The Breast Milk Bank As a Community Project.

ALVAH L. NEWCOMB, Evanston Hospital, Evanston, Ill.

A map of the world will indicate the type of breast milk facilities in each city, i. e., the breast milk bank that existed in the past but is not now operating; the breast milk bank now operating; the number of ounces handled per day; cost to patient; payment to donor and sponsoring organizations, etc. A detailed description of the Breast Milk Bank operated by the Junior League of Evanston and the Evanston Hospital Association will be available, together with a display of the equipment used. All visiting physicians will be questioned in detail concerning the breast milk banks in their respective communities, so that new information will be added to the map all through the meeting.

Section on Physical Medicine and Rehabilitation

The representative to the Scientific Exhibit from the Section on Physical Medicine and Rehabilitation is DONALD A. COVALT, New York.

Evaluation and Treatment: Secondary Changes in Knee Dysfunction in Geriatric Patients.

KEITH C. KEELER, Rehabilitation Center of Summit County, Inc., Akron, Ohio.

The exhibit outlines the symptomatology of ambulatory geriatric patients having knee disabilities such as Charcot joint or osteoarthritis. Photographs and drawings illustrate findings on clinical examination and associated anatomic changes. A model of a knee joint shows effect of muscle pull and ligamentous supporting structures on the joint. The exhibit also presents rational application of nonsurgical therapy to the knee joint in geriatric patient having changes secondary to the primary pathology, such as limited range of motion, lateral instability, reduced muscle strength.

Ambulation of the Elderly Amputee.

HAROLD DINKEN, JOHN S. YOUNG, and BRUCE A. SCOTT, University of Colorado School of Medicine, Denver.

The elderly amputee presents many problems that are not met in the conventional approach to the amputee in the lower age groups. Frequently he is denied the opportunity to even attempt ambulation because of the high cost of a prosthesis. This exhibit presents an approach to this problem. Several low cost prostheses are displayed, with illustrations of techniques for their use in the rehabilitation of the elderly amputee.

The Rehabilitation of Children with Muscular Dystrophy, Spina Bifida, and Amputations.

G. G. DEAVER, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, New York.

The exhibit shows pictures of children with muscular dystrophy, spina bifida, and amputations and some of the gadgets, prostheses, and equipment used in their rehabilitation. Patients with these conditions will be presented.

Operation of the Prosthetic Team in a Rehabilitation Center.

O. LEONARD HUDDLESTON and WILLIAM HENDERSON, Santa Monica, Calif., and SEDGWICK MEAD, Vallejo, Calif.

The exhibit consists of photographs, charts, posters, drawings, prosthesis components, and illustrations of upper and lower extremity prostheses. The significant points presented are as follows: (1) the importance of the treatment of amputees at a rehabilitation center; (2) the teamwork approach to the management of amputees; and (3) the development and organization of a prosthetic team, consisting of physiatrists, occupational therapists, physical therapists, prosthetists, and consultants, consisting of orthopedic surgeons, psychiatrists, clinical psychologists, medical social worker, and rehabilitation officer.

The Rehabilitation Center: Its Role in Recovery.

W. SCOTT ALLAN, Mutual Insurance Company, Boston.

The exhibit demonstrates the role of the rehabilitation center in the community program and particularly the importance of its application to industrial cases. The rehabilitation center acts as a supplement to the care received from the attending physician and bridges the gap between hospital and return to work with an individualized program directed at maximum recovery of function and adjustment to physical handicap. A coordinated program of therapy, testing, and counseling, all under medical supervision, provides an effective method of reducing loss in the industrial accident case. As a working tool the center becomes an integral part of the community medical and health services interested in the restoration of the individual to an effective physical, social, and economic whole.

Hypokinetic Disease.

HANS KRAUS, KURT HIRSCHHORN, BONNIE PRUDEN HIRSCHLAND, and SONJA WEBER, New York University-Bellevue Medical Center, New York.

Lack of physical activity (hypokinetic state) may lead to disease. The exhibit presents a list of diseases that are caused by underexercise or that have lack of exercise as contributing factor. This includes cardiovascular disease, tension syndromes of physical or emotional nature, and orthopedic conditions, among others. Muscular deficient low back is described. Prevention of hypokinetic disease and the role of physical medicine and rehabilitation in its prevention are described. A study of the state of muscular deficiency and fitness of American school children (eastern seaboard area) and comparative study in countries abroad are presented. The role of hypokinetic state as contributing cause to disease is discussed.

Rehabilitation of the Severely Disabled: Medical and Vocational Follow-Up.

MORTON HOBERMAN, BERNARD M. TESCHNER, and BENJAMIN H. LIPTON, Woodside, L. I., N. Y.

The exhibit depicts the end-results of medical and vocational rehabilitation from the records of the Joseph Bulova School of Watchmaking, Woodside, L. I., N. Y. The students of this school are both veterans and civilians, usually with severe disabilities and complicated medical problems. An important policy of the school is to assist the disabled in selective placement in business and industry. Specific results in several categories of disabilities are presented. Graduates of the school will demonstrate their skills daily.

Conquering Crippling Through a Community Rehabilitation Center.

LAWRENCE J. LINCK and JAYNE SHOVER, National Society for Crippled Children & Adults, Inc., Chicago, and EDWARD SCULL and JUNE SOKOLOV, Connecticut Society for Crippled Children & Adults and Hartford Rehabilitation Center, Inc., Hartford, Conn.

The exhibit will feature demonstrations of rehabilitation techniques by rehabilitation personnel, including doctors, therapists, and others, with actual patients. Selected items of equipment will be utilized in the demonstrations.

Clinical Hydrotherapy.

HANS J. BEHREND and J. WEISS, Hospital for Joint Diseases, New York.

The exhibit presents the evolution and history of hydrotherapy together with a live demonstration of the physiology of hydrotherapy and its various applications, with emphasis on its use in general practice.

Exercise and Peripheral and Visceral Blood Flow.

KARL HARPUDER and IRWIN D. STEIN, Montefiore Hospital, New York.

The partition of blood to skin and muscle circulation, the liver and the kidney in normal man after moderately heavy exercise has been studied, including the effect of change of position from the horizontal to the erect.

Restitution of Function Following Hemiplegia.

WALTER J. TREANOR, RAOUL C. PSAKI, OLENA M. COLE, JOHN J. KEYS, and CARUS S. HICKS, Letterman Army Hospital, San Francisco.

The exhibit brings out three main aspects of hemiplegic care: 1. The pathological physiology of the hemiplegic posture. Diagrams show alterations in relaying of incoming impulses at the spinal synapse. 2. Patterns of motor return, both spontaneous and under treatment. These show three major impediments to recovery: postural hyperactivity, dyssynergies, and proximal paresis. 3. Factors that influenced recovery. These include selective reeducation, curtailed ambulation, nerve conduction "blocks," and operative procedures.

Lower Extremity: Temporary Training Prostheses (Pylon).

MAXWELL D. FLANK, JAMES F. KURTZ, and ERMA A. SMITH, Veterans Administration Hospital, Hines, Ill.

This exhibit demonstrates techniques to rehabilitate better and more quickly the recent lower extremity amputee using the Pylon. This has been developed in the past two and one-half years, during the intermediary period from surgery (amputation) to time of fitting with the prescribed permanent prostheses. This program was developed due to numerous medical and surgical complications in the recent lower extremity amputee.

Classification of Early Lateral Deviations of Spine Following Poliomyelitis.

Robert L. Bennett, Georgia Warm Springs Foundation, Warm Springs, Ga.

The exhibit presents illuminated pictures, line drawings, and x-rays of early lateral deviations of the spine, their probable and possible causes, and various forms of treatment. The purpose of the exhibit is to emphasize that prevention of significant structural scoliosis is possible only through recognition and care of the very earliest lateral deviations of the spine.

Section on Preventive and Industrial Medicine and Public Health

The representative to the Scientific Exhibit from the Section on Preventive and Industrial Medicine and Public Health is Paul A. Davis, Akron, Ohio.

Control of Viral Infections with Modified Live Viruses.

Victor J. Cabasso, Herald S. Cox, and Floyd S. Markham, Lederle Laboratories, Pearl River, N. Y.

Despite great progress in the treatment of infectious disease, small virus infections must still be controlled by prophylactic measures. Naturally mild viruses and pathogenic viruses modified by utilizing a suitable host such as the chick embryo may be used to immunize effectively without producing the disease. The principles and advantages of immunization with nonvirulent living organisms are shown. Viral infections preventable by immunization with living vaccines are enumerated. Progress in developing vaccines is enumerated. Progress in developing vaccines of this type for other small virus diseases is reported.

The Memorial Hospital Association of Kentucky, Inc.: An Integrated Regional Hospital Program.

Aims C. McGuinness, Washington, D. C.

The 10 hospitals of the Memorial Hospital Association of Kentucky will be completed in the fall of 1955. The program will provide a coordinated and integrated chain of hospitals for the beneficiaries of the United Mine Workers of America Welfare and Retirement Fund and other persons living in coal region communities of West Virginia, Kentucky, and Virginia. The exhibit will tell the story of the evolution of this hospital system and its plans for providing a medical-care program for the miners and their dependents.

The Treatment of Sinorespiratory Infections: A Bacteriological and Epidemiological Approach.

Samuel J. Prigal, New York Medical College, Flower and Fifth Avenue Hospitals, New York.

This is a five year study, clinical and experimental, of sinorespiratory infections and their treatment with antibiotics. Cultures from 651 patients yielded 1,958 organisms. Yearly variations of organisms are noted, along with yearly responsiveness to in vitro action of antibiotics. Advantages and limitations of in vitro inhibition testing are listed. Bacteriological studies of family groups highlight intrafamilial contagion. Reinfection from skin, eye, and ear is demonstrated. Experimental studies demonstrate the efficiency of seven antibiotics in various combinations. The antibiogram is a graphic presentation of such action. Experimental and clinical development of resistance to antibiotics is demonstrated. The dynamics of chronic and recurrent sinorespiratory infection is depicted along with necessary therapeutic procedures.

Diagnosis and Treatment of Intoxication from Organic Phosphorus Insecticides.

Marvin A. Epstein and Gustave Freeman, Chemical Corps Medical Laboratories, Army Chemical Center, Md.

This exhibit reviews the history of the anticholinesterase insecticides and their relationship to the nerve gases and presents a map showing the areas and crops involved. The mechanism of action is described by formulas and schematic drawings, and routes of absorption are shown as well as hazards to manufacturing plant employees, mixers, professional sprayers, and airplane pilots. Precautionary measures and special equipment are illustrated. The pathophysiology of intoxication, supplemented by results of physiological studies in animals, and then a detailed display of the clinical picture in human poisoning are presented. Symptoms and signs in various degrees of intoxication are given, with results of treatment derived from a study of a number of severe cases in which a detailed analysis of therapy was made. Typical pathological findings in fatal cases are presented.

Maternal Mortality Study in Franklin County, Ohio.

Richard L. Meiling and Anthony Ruppersberg Jr., the Columbus Obstetric and Gynecologic Society, Columbus, Ohio.

A general survey of the need, planning, and findings of the continuous annual Maternal Mortality Study conducted in Franklin County, Ohio (Columbus), for seven years, from 1948 through 1954, is presented. A theme similar to King Arthur and his court is used as a basis for this exhibit. Deaths occurring from hemorrhage, infection, and toxemia are portrayed as well as various other results, together with recommendations based upon respective findings.

For Better Dental Health.

John W. Knutson, U. S. Department of Health, Education, and Welfare, Public Health Service, Washington, D. C.

This exhibit describes the dental health program of the Public Health Service and presents information on basic and clinical research, fluoridation, services to states, and resource studies.

Exfoliative Cytology as a Practical Method in the Detection of Early Cancer.

Charles S. Cameron and Brewster S. Miller, American Cancer Society, New York.

This exhibit will outline the history of cytology from Poucet's early observations in 1843 to Papanicolaou's and Traut's classic monograph in 1943. The techniques of smear preparation from several sites, i. e., uterus, lung, colon, stomach, prostate, etc., will be illustrated, together with methods of examination of material and best reported accuracy of each. Investigative aspects of the problem will also be included, i. e., cytoanalyzer, sensitization and radiation responses, Shelby County Study of mass detection of uterine cancer, the Draghi tampon study, use of the "cytology kit" by patients, etc.

Eyes in Industry.

A. D. Ruedemann, Hedwig S. Kuhn, John B. Hitz, E. B. Spaeth, and Victor A. Byrnes, Joint Committee on Industrial Ophthalmology, American Medical Association and American Academy of Ophthalmology and Otolaryngology.

The exhibit demonstrates (*a*) the mechanism of chemical damage to the eye, (*b*) dangerous eye infections, (*c*) sterility of medication in the use of industrial eye trays, (*d*) wise owl club, and (*e*) eye protective equipment, etc.

At Birth Diphtheria-Pertussis-Tetanus Immunization.

H. D. Chamberlain, Ohio Academy of General Practice, McArthur, Ohio.

The exhibit shows a five year experience of the inoculation of the neonatal infant with a standard preparation of diphtheria-pertussis-tetanus vaccine, comparing the mortality with five years previous and the five years that the program has been in effect, numbering some 850 infants.

Microbiological Safety.

Arnold G. Wedum, Morton Reitman, Charles Mullican, and George Gardner Jr., Camp Detrick, Frederick, Md.

The exhibit displays safety devices that are used by the Chemical Corps to protect their laboratory personnel against infection. A scale model of a bacteriological safety cabinet is shown, very similar in design to that used by the radioisotope workers. All manipulations with infectious material are carried out in this cabinet, in which there is a pane of glass between the worker and the manipulation he is doing and a current of air sweeps away from him the dangerous bacterial aerosols. The bacteria in these aerosols are filtered through a specially devised spun glass filter that prevents the bacteria from reaching the outside air. An attached autoclave (for sterilizing infectious materials) and ultraviolet air lock allows for the complete isolation of the cabinet's interior from the outside air.

Periodic Health Appraisal: Method and Results of Examinations.

Robert J. Bolt, O. T. Mallery Jr., and C. J. Tupper, University of Michigan, Ann Arbor, Mich.

This exhibit demonstrates the method of routine periodic examinations as carried out by the department of internal medicine and the institute of industrial health of the University Hospital. All examinations are done on an inpatient basis and consist of complete history and physical examinations, as well as complete laboratory and x-ray studies. This has given an unusual opportunity to evaluate the reliability and value of individual laboratory and x-ray examinations when utilized in asymptomatic individuals. A description of the manner in which the examinations are carried out is presented, together with the findings on 943 examinations done over a five year period. There is also depicted the value of routine chest, upper gastrointestinal tract, gallbladder, and colon x-rays, as well

as the value of individual laboratory tests, such as fasting blood sugar, nonprotein nitrogen, urine, acid and alkaline phosphatase, blood cell counts, and serologic tests.

Ragweed Control: What Can and What Cannot be Done.

OREN C. DURHAM, Abbott Laboratories, North Chicago, Ill., and BERNARD B. SIEGEL and MATTHEW WALZER, Jewish Hospital of Brooklyn, Brooklyn, N. Y.

Ragweed control means ragweed pollen control to the physician. With the advent of selective chemical herbicides a steadily increasing interest is being manifested by the public and by public health and sanitary engineers in ragweed eradication. Owners of health resorts and would-be health resorts are particularly interested. Roadside spraying with 2-4D is being fostered by chemical manufacturers and militant lay organizations. Evaluation of local weed control programs as to their cost and effectiveness in the prevention of hay fever and pollen asthma are being carried out. The spread of ragweed into heretofore ragweed-free areas is receiving due attention. This exhibit shows where and how present knowledge of ragweeds and ragweed pollen may be applied in guiding ragweed control efforts.

Noise Measurement and Hearing Conservation.

EDWARD B. HEADLEY, Army Environmental Health Laboratory, Army Chemical Center, Edgewood, Md., and JAMES ALBRITE, Walter Reed Army Medical Center, Washington, D. C.

The exhibit will illustrate with models and photographs the energy level, frequency distribution, and duration of noises routinely encountered in a military environment. A portion of the exhibit will be devoted to the different types of ear defenders, the insert type ear defender, and the external muff-type ear defender; the respective noise attenuation curves for these types of equipment will be presented in graphic form. The exhibit will deal with screening and threshold audiometry and the function of these procedures in a conservation of hearing program.

Mobile Units for Occupational Health Services—Trailer Clinic for Periodic Examinations.

LOGAN T. ROBERTSON, Occupational Health Services, Asheville, N. C.

The exhibit shows models of trailer units used in periodic examinations. A complete unit consists of two trailer units attached side by side and a third unit, a house trailer, in which a laboratory is installed.

Section on Radiology

The representative to the Scientific Exhibit from the Section on Radiology is RICHARD H. CHAMBERLAIN, Philadelphia.

Osteopetrosis in Adults.

C. L. HINKEL, D. D. BEILER and T. R. WILSON, Geisinger Memorial Hospital and Foss Clinic, Danville, Pa.

The roentgenologic characteristics of osteopetrosis in adults are illustrated by the presentation of four siblings over 50 years of age who have the disease. The familial characteristics, distributional pattern, differential diagnosis, and histological appearance are emphasized. The authors believe their patients have recovered from the active form of the disease.

Roentgen Findings in Sprue.

RICHARD H. MARSHAK, BERNARD S. WOLF, and DAVID ADLERSBERG, Mount Sinai Hospital, New York, and A. I. FRIEDMAN, Hackensack, N. J.

Fifty patients with sprue were studied with repeated small intestine examinations before and after therapy with antianemic and steroid preparations. The roentgen findings in 70% of the cases were characteristic, consisting of initial dilatation of the jejunum, delayed segmentation, increased secretions, and abnormal scattering. Because the roentgen pattern is characteristic in such a large majority of cases, the term sprue pattern has been used to describe the above findings rather than the nonspecific term deficiency pattern. Films demonstrating roentgen improvement following therapy are shown, as well as differential diagnosis. The term deficiency pattern has been used to include such a large variety of disorders that its meaning has been diluted. Many of the diseases previously called deficiency pattern have a characteristic pattern that can be more accurately described and classified.

Nonsurgical Cholangiography.

WILLIAM H. SHEHADI, New York Polyclinic Medical School and Hospital, New York.

Visualization of the biliary tract without surgical intervention may be performed by means of oral and intravenous cholangiography. Oral cholangiography, following administration of telepaque, will visualize the gallbladder and, in normalcy, the extrahepatic ducts, particularly the cystic and common bile ducts. In abnormal conditions with distal obstruction or spasm of the sphincter of Oddi, the hepatic ducts may be visualized by reflux. Intravenous cholangiography, following injection of cholografin, will result in visualization of the major intra and extrahepatic bile ducts within 10 to 20 minutes and through a 60 minute period. This is of immeasurable value in patients in which cholecystectomy has been done. Optimal gallbladder filling is at 2 to 2½ hours. Studies of normal and abnormal anatomy and physiology are presented, as well as a variety of pathological conditions.

Intravenous Cholangiography in the Postcholecystectomy Syndrome.

JOHN L. MCCLENAHAN, JOHN A. EVANS, and PAUL W. BRAUNSTEIN, New York Hospital-Cornell Medical Center, New York.

Results are presented of intravenous cholangiography in more than 100 patients whose symptoms of right upper quadrant pain and indigestion persisted after cholecystectomy. In some of these the common bile ducts appeared to be normal. In a relatively high percentage of others residual calculi were shown in the common duct on routine films and tomograms. In other patients the common duct was markedly dilated, or, because of jaundice, could not be shown at all. Angulation of the duct, compression by adhesive bands, stenosis, and spasticity of the sphincter are also demonstrated.

Body Section Radiography in the Study of the Heart and Great Vessels with Particular Reference to Left Atrial Enlargement.

GEORGE T. WOHL and BERNARD H. PASTOR, Veterans Administration Hospital, Philadelphia.

This exhibit describes a new method for the demonstration of left atrial enlargement in cases in which the atrium is not satisfactorily defined in conventional roentgenograms. This application of body section radiography has not been previously described. This method is important as an aid in the diagnosis of mitral valvular disease in obscure cases. This method is of particular importance in view of the frequency today of valvular surgery for mitral stenosis. The exhibit also describes the application of body section radiography in the study of the heart and great vessels for other pathology.

Roentgenographic Patterns in Colon Obstruction.

EDWARD F. DUNNE, C. ROBERT HUGHES, and CHARLES M. GREENWALD, Cleveland Clinic Foundation, Cleveland.

The exhibit reviews radiological signs in colon obstructions, emphasizing the distinction between distal and proximal colon lesions as regards colon contents and small intestine status.

The Deep Cerebral Veins Studied by Rapid Sequence Biplane Stereoscopic Cerebral Angiography.

ROBERT E. PAUL, PAUL M. LIN, W. EDWARD CHAMBERLAIN, MICHAEL SCOTT, and HERBERT M. STAUFFER, Temple University Hospital, Philadelphia.

The normal anatomy of the deep cerebral veins with their relationship to surrounding structures is presented. The importance of the venous angle of the brain, as a constant landmark at the site of the foramen of Monro, is illustrated in normal individuals and in patients with space-taking intracranial lesions. Charts for the orientation of the venous angle are illustrated and their significance summarized. The exhibit material is based on a series of 400 cerebral angiograms, using the biplane, stereoscopic, rapid serial film technique, with a pair of stereoscopic films taken at right angles to each other every 0.6 of a second. The venous phase of the cerebral angiogram (phlebogram) is observed with regularity and is of definite diagnostic value alone or in combination with the arterial phase in localizing intracranial disease. Only a single injection of contrast material (10 cc.) is necessary for a complete study of the arterial, capillary, and venous phases when the biplane stereoscopic unit is used.

Laminography of the Sternoclavicular Area.

LAWRENCE REYNOLDS, GEORGE F. BOONE, and HAROLD E. FULTON JR., Harper Hospital, Detroit.

The sternoclavicular area is examined with difficulty by ordinary roentgenographic methods. Laminography is particularly valuable in roentgen visualization of the manubrium, manubriosternal joint, costosternal articulations, and sternoclavicular joints. Details of the laminographic technique are presented, accompanied by representative cases illustrating the various diseases affecting the sternoclavicular area.

The Lower Esophagus and Esophagogastric Junction.

COSTANTINO ZAINO and MAXWELL H. POPPEL, New York University College of Medicine, New York, and CHARLES F. BLAZSEK, St. Anthony's Hospital, Woodhaven, L. I., N. Y.

This exhibit is a roentgenologic study by the conventional and "oil contrast" technique on normal individuals and on patients with pneumoperitoneum. The demonstration of the roentgen anatomy will include the phrenic ampulla, inferior esophageal sphincter, gastroesophageal vestibule, constrictor cardia, and phrenoesophageal membrane. Pneumoperitoneum studies will demonstrate the respiratory and positional effects on the abdominal segment of the esophagus.

Ulcerative Colitis: Roentgen Manifestations.

HENRY WOLOSHIN and JOHN A. KIRKPATRICK, Temple University Hospital, Philadelphia.

The roentgen findings in early and late cases are illustrated. The value of follow-up studies is noted. The importance of deciding extent of involvement is stressed and the signs of malignant changes are reviewed.

The Roentgen Diagnosis of Hyperrugosity of the Stomach.

ROBERT SHERMAN, Memorial Hospital, New York, and DANIEL WILNER, Atlantic City, N. J.

Hyperrugosity is the term employed to describe a nonmalignant condition of the stomach characterized by the presence of voluminous mucosal folds that simulate the convolutions of the brain and that may at times produce filling defects of tumor-like character. Many such cases have been observed during the past seven years, most of which were discovered in asymptomatic individuals from the Strang Cancer Detection Clinic, Memorial Center. This condition assumes particular importance because of the frequency with which it may be confused roentgenologically with carcinoma, lymphoma, polyposis, and gastritis.

Irradiation of Bladder Cancer: Supervoltage Rotation, and Point Source Intracavitary Techniques.

MILTON FRIEDMAN, New York University College of Medicine, New York, and LLOYD G. LEWIS, Georgetown University School of Medicine, Washington, D. C.

Two new irradiation techniques for cancer of the bladder are presented. The point-source intracavitary technique entails placing a small radium capsule or a specially designed tiny radioactive cobalt pellet inside an inflated balloon. Fifty patients were treated with this technique more than five years ago, and the results are analyzed. The supervoltage rotation technique entails a horizontal beam of 2 million volt x-rays directed at a patient standing vertically on a rotating platform. Fifty patients who have been irradiated within the past three years are analyzed. Both procedures entail precision techniques, which are illustrated and demonstrated in detail. A clinical-pathological and radiosensitivity classification of bladder cancer is presented. Specific tumor doses are suggested for each type. The results suggest that irradiation will play an important role in future treatment of bladder cancer.

Radioactive Colloidal Gold in the Treatment of Effusions Resulting from Neoplasms.

GOULD A. ANDREWS, RALPH M. KNISELEY, and MARSHALL BRUCER, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn.

Colloidal gold is injected directly into body cavities containing effusions caused by malignant neoplasms. This treatment causes diminution or cessation of fluid accumulation in certain of these patients and thus affords a form of palliative treatment. The exhibit indicates the method of administering the isotope and illustrates its distribution and effects.

Radioactive Iron Studies for the Evaluation of Hematopoietic Function.

R. KENNETH LOEFFLER, VINCENT P. COLLINS, C. T. TENG, WALTON WEST, and RENE MASTROVITO, Baylor University College of Medicine, Houston, Texas.

Radioactive iron in the study of anemia and other disorders of hematopoiesis has the potentiality for becoming as useful as radioiodine for evaluating thyroid disease. Routine blood studies establish only static values that represent the balance between production and destruction or loss. The iron turnover test permits dynamic evaluation, offers information as to the nature of the disorder, and indicates response to treatment long before this would be reflected in peripheral blood studies. The exhibit demonstrates typical radioiron turnover patterns by means of a model, with supplementary posters giving advantages, practical description, and normal and abnormal values.

Gamma-Ray Emitting Isotopes Versus Radium.

GILBERT H. FLETCHER, FERNANDO G. BLOEDRON, and WARREN K. SINCLAIR, University of Texas, M. D. Anderson Hospital and Tumor Institute, Houston, Texas.

The advantages and disadvantages and the fundamental dosimetry problems, in the use of the so-called radium substitutes, such as Cobalt-60, Cesium-137, gold-198, and tantalum-182, are demonstrated as follows: 1. Cobalt-60, Cesium-137, versus radium; 3-dimensional reconstructions of dosage patterns in implants according to the Paterson-Parker system for radium, Cobalt-60 and Cesium-137 needles. Photographs and essential components of equipment used for measurements at short distances, and color photographs of skin reactions of implants are shown. 2. Tantalum-182. A sample of tantalum wire, a special inserter, and roentgenograms of implants are shown. 3. Au-198 (radioactive gold). The Royal Cancer Hospital (London) technique that is the use of platinum coated gold grains with a three-dimensional inserter (gun).

Section on Surgery, General and Abdominal

The representative to the Scientific Exhibit from the Section on Surgery, General and Abdominal, is JOHN H. MULHOLLAND, New York.

Cardiac Surgery: Recent Improvements in Technique.

CHARLES P. BAILEY, HOUCK E. BOLTON, WILLIAM L. JAMISON, and HENRY T. NICHOLS, Bailey Thoracic Clinic, Philadelphia.

As our experience has increased with cardiac surgery, numerous improvements in the surgical technique for such patients have been developed. Mitral commissurotomy for mitral stenosis is not adequately performed if the subvalvular structures are not explored and any obstruction corrected. Aortic stenosis was previously corrected by a transventricular approach. There are certain cases where this is not applicable, and an approach through the aorta has been developed. The simultaneous correction of multiple valvular lesions is now being performed. Pulmonary valvular stenosis as well as infundibular stenosis can now be corrected with greater facility by recently developed instruments. The results of these alterations in technique are presented. Approximately 1,500 such cases operated upon are evaluated.

Operations for Coronary Artery Disease.

CLAUDE S. BECK and DAVID S. LEIGHNINGER, University Hospitals, Cleveland.

This exhibit is based upon 23 years' experience in the laboratory and operating room dealing directly with the coronary arteries. There are two causes of death due to coronary artery disease: a break in mechanism, and myocardial failure. Over 90% of all victims of coronary artery disease die from a break in mechanism. These patients could be helped by operation provided the operation was done before the break in mechanism occurred. Surgical methods for aiding the crippled coronary circulation are presented. Measurements of several surgical procedures are presented. The selection of patients, clinical results, and mortality are presented. Over 250 patients have been operated upon. About 80% of the patients received an excellent or good result. Patients will be presented.

Medical Evaluation of the Beck Operations for Coronary Disease.

BERNARD L. BROFMAN and MORTIMER L. SIEGEL, Mount Sinai Hospital, Cleveland.

This exhibit is based upon a series of more than 50 consecutive patients operated at Mount Sinai Hospital of Cleveland since July, 1952, with adequate follow-up. Selection of patients, indications, and contraindications are presented. In properly selected patients the Beck 1 operation has a mortality of less than 5%. Follow-up studies reveal significant overall improvement in approximately 90% of the patients evaluated. Patients will be presented.

Plastic Embedded Hearts: Cleared and Corroded Specimens.

KENNETH WOLFE, University Hospitals, Cleveland.

The various steps in preparing hearts for museum specimens by clearing and by corrosion methods are illustrated. These methods permit good visualization of the coronary vessels. The technique of embedding the prepared hearts in transparent plastic according to a method developed by the exhibitor is illustrated by specimens in various stages of preparation. This method permits easy handling of permanently preserved material.

Direct Vision Intracardiac Surgery for Correction of Congenital Heart Defects.

C. WALTON LILLEHEI, MORLEY COHEN, HERBERT E. WARDEN, and RICHARD L. VARCO, University Hospitals, Minneapolis.

The exhibit describes the technique of controlled cross circulation, the physiological and experimental development of this and other methods for total cardiac bypass, the techniques developed for, and the clinical results of, correction of interventricular septal defects, atrioventricular communis defects, and the anatomic correction of the tetralogy of Fallot by closure of the ventricular septal defect and resection of the infundibular stenosis.

Richter's Hernia: Etiology, Recognition, and Treatment.

ROBERT W. GILLESPIE, MERLE M. MUSSELMAN, and WAYNE W. GLAS, Wayne County General Hospital, Eloise, Mich.

Richter's hernia is a deceptive entity with a high mortality that can be reduced by accurate diagnosis and early operation. It is deceptive because strangulation may occur early, frequently in the absence of obstructive symptoms. The high mortality associated with this lesion has resulted from misdiagnosis and delayed operation. Criteria for its accurate diagnosis and treatment are presented. These are illustrated by photographs, drawings, and roentgenographs selected from those of a group of 16 patients.

Cinematographic Studies of the Cardiac Valves.

CHARLES V. MECKSTROTH, KARL P. KLASSEN, and JOHN PATRICK CRAWFORD, Ohio State University Hospital, Columbus, Ohio.

Cinematographic studies have been carried out on the valves of the heart in both normal and pathological states. The surgical correction of common conditions such as pulmonary, mitral, and aortic stenosis have been recorded. The technique for reproducing these studies is shown to enable other physicians to carry out similar work for teaching purposes.

The Diagnosis and Treatment of Segmental Arteriosclerosis Obliterans.

F. A. LEFEVRE, V. G. DEWOLFE, and A. W. HUMPHRIES, Cleveland Clinic, Cleveland.

This exhibit stresses the importance of the diagnosis of segmental arterial disease involving the abdominal aorta and the arteries of the lower extremities. The technique of complete angiographic survey is described. The exhibit also demonstrates the process of preparing arteries for grafting, the grafting procedure itself, and the results of grafting in our particular series. Aortograms before and after grafting and the gross specimens are also demonstrated.

Resection and Grafting in the Treatment of Arterial Diseases Affecting the Lower Limb.

D. EMERICK SZILAGYI, ROGER F. SMITH, NICHOLAS P. D. SMYTH, CLAIBOURNE P. SHONNARD, and GERALD A. LOGRIPPO, Henry Ford Hospital, Detroit.

The clinical material on which the exhibit is based consists of 50 cases of arterial and aortic lesions (exclusive of aortic aneurysms). The greatest clinical emphasis is placed on segmental occlusive disease of the femoropopliteal and, to a lesser degree, aortoiliac areas. Aneurysms and traumatic injuries of the femoropopliteal trunk complete the series. All patients were treated with resection of the diseased segment and replacement by wet-preserved or lyophilized sterilized homografts. An over-all rate of 80% of patency was obtained in the grafts. The exhibit portrays the following aspects of the subject matter: the important clinical characteristics of the arterial lesions, the diagnostic procedures (in particular, angiography) essential for their identification, and the salient surgical techniques in their treatment by resection and grafting. A pictorial summary of methods of graft procurement and storage particularly suited to the needs of smaller hospitals is included.

Carcinoma of the Lung.

HERBERT D. ADAMS, DAVID P. BOYD, and CARLTON R. SOUDERS, the Lahey Clinic, Boston.

The exhibit shows general statistical data elicited from a detailed study of over 400 cases of bronchogenic carcinoma. Causes of delay in diagnosis and treatment are stressed. Surgical specimens emphasize diagnosis and pathological consideration and especially the differential diagnosis of lesions confused with cancer of the lung. Therapy includes various types of surgical operations, as well as the application of 2 million volt x-ray therapy.

Surgical Treatment of Obliterative Arterial Disease and Arterial Aneurysm.

CHARLES A. HUFNAGEL and PIERRE J. RABIL, Georgetown University Hospital, Washington, D. C.

The various methods for arterial reconstruction of major arterial trunks are shown by means of transparencies. Illustrative cases of typical types of arterial obstruction and location of aneurysms are shown from clinical cases. The methods for restoring arterial continuity, utilizing flexible plastic prostheses, homografts, and heterografts, are shown as applied to the various lesions. A summary of the clinical results is given.

Adenomas of the Rectum and Colon.

ROBERT TURELL and ROBERT PARADNY, NEW YORK.

The exhibit deals with the incidence, distribution, types, genesis, familial tendency, cancer potential, and treatment of discrete single or multiple scattered adenomas. Practically all of these items are illustrated by means of black and white and colored gross and/or microscopic transparencies. The text is precise, clear, and short. The bulk of the exhibit is devoted to treatment and illustrates the newest electrothermic methods and surgical techniques. Brief allusion is also made to the pediatric aspects of this problem, to the familial type of polyposis, and to adenomas occurring in association with inflammatory disease of the colon.

Prognosis in Gastric Malignant Disease: The Significance of a Preoperative Diagnosis of Gastric Ulcer.

STANLEY O. HOERR and WILLIAM K. RUNYEON, Cleveland Clinic, Cleveland.

The exhibit shows that the outlook is more favorable in lesions regarded as probably benign before operation, since the classification of the lesion at operation is then likely to be more favorable. Experience of the senior exhibitor will be drawn on to substantiate this thesis, and illustrative cases will be shown.

Moles and Melanoma.

JEFF DAVIS and GEORGE T. PACK, Memorial Center for Cancer and Allied Diseases, New York.

Pertinent and little-known interesting facts about "moles and melanoma" are presented together with their differential diagnosis. A series of scattergrams demonstrate patterns of melanin formation and the regional distribution of benign pigmented moles in 1,000 patients and malignant melanomas in 1,225 patients. Indications for removal of nevi and choice of surgical procedures employed in the treatment of both primary and metastatic melanoma are given, together with statistics and end-results of treatment of 1,225 cases of malignant melanoma.

Surgical Management of Benign Lesions of the Lower Esophagus.

H. R. HAWTHORNE, PAUL NEMIR, and A. S. FROBESE, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

The methods of surgical management of benign lesions of the lower esophagus are portrayed. The diseases that are included are those of achalasia of the esophagus, esophageal diverticula, hiatus hernias, esophageal varices, and peptic esophagitis. The morbid anatomy and pathological physiology encountered in a large number of patients having achalasia of the esophagus are shown. The results in over 30 patients having the Heller procedure or esophagocardiomyotomy are given in detail. Newer concepts of the motor mechanism of the lower esophagus and health and disease are shown by roentgenograms and esophageal motility tracings.

Combined Surgery for Intraoral Carcinoma and Cervical Metastasis.

O. H. BEAHRS, K. D. DEVINE, E. L. FOSS, and S. W. HENSON JR., Mayo Clinic and Mayo Foundation, Rochester, Minn.

Radical surgical intervention for the treatment of intraoral carcinoma and cervical metastasis from these lesions has become feasible and safe in recent years. Both primary and metastatic lesions can be removed during the same operation as a combined procedure. If necessary, en bloc excision should be performed and even hemimandibulectomy carried out if indicated. Dissection of the neck for metastatic lesions always should be carried out. This exhibit presents (1) the clinical appearance and salient pathological features of various types of malignant intraoral and cervical metastatic lesions, with the aid of illustrative cases; (2) the surgical anatomic features of the oral cavity and the neck; (3) indications for surgical procedures; and (4) results of treatment.

Radical Mastectomy with en Bloc Resection of the Internal Mammary Lymph Node Chain.

JEROME A. URBAN, Memorial Hospital, New York.

Breast cancer drains primarily into two main lymphatic depots, the axilla and the internal mammary chain. The classical radical mastectomy procedure removes only one of these depots, the axillary nodes. A new operative technique that removes the primary breast cancer in continuity with both of its primary lymphatic drainage depots is demonstrated. This practical procedure has been applied to a series of 200 cases of primary operable breast cancer. In this group of patients 54% had positive axillary nodes, 36% positive internal mammary nodes, 40% all nodes clear. Thirteen per cent of all patients with normal axillary nodes had abnormal internal mammary nodes. To date only three cases of local recurrence as the first sign of recurrent cancer have appeared. The three year survival rate is 77%. Postoperative mortality is only 0.5%, or one patient out of 200. There has been no real increase in postoperative morbidity, and all patients have returned to their previous state of functional activity.

Extended Resection for Cancer: Distal Colon and Rectum.

GARNET W. AULT, ROBERT S. SMITH, and ALEJANDRO F. CASTRO, the Proctology Clinic of Washington, Washington, D. C.

The exhibit anatomy illustrates the difference between the vascular-lymphatic zones of drainage of the lower rectum, upper rectum, and distal colon. Methods to extend the surgical excision of these zones of vascular-lymphatic metastasis are illustrated. Occlusion of vascular, lymphatic, and intraluminal routes of metastasis before handling the malignant tumor are stressed. Retroperitoneal aortic-vena cava lymphadenectomy, inferior mesenteric vascular excision, and pelvic lymphadenectomy are also illustrated. The relationship of extended resection to the conventional abdominoperineal resection, anterior resection, and left colectomy are presented.

Cancer of the Larynx.

HAYES E. MARTIN, OLIVER S. MOORE, and JAMES HELSPER, Memorial Hospital, New York.

The exhibit presents a definition of the anatomic forms of cancer of the larynx (intrinsic and extrinsic). The techniques of treatment by radiation (dosage in successful cases) and surgery are shown. Surgical techniques are partial laryngectomy, total laryngectomy, and total laryngectomy combined with neck dissection. Colored transparencies of excised larynges are shown, illustrating the types and extent of lesions which have been excised, including a number with the attached tissues of the neck

dissection. Net five-year end-results are given separately for cancer of the extrinsic larynx and for cancer of the intrinsic larynx. These figures are further broken down into the comparative end-results according to the method of treatment, surgery and radiation.

General Hypothermia in Surgery.

HENRY SWAN, SYLVAN BAER, EMIL BLAIR, STROTHERS MARSHALL, and GORDON MUNRO, University of Colorado Medical Center, Denver.

The exhibit demonstrates the physiological effects, both beneficial and dangerous, of general hypothermia in the range, 20 to 30 C (68 to 86 F). It also gives an analysis of its potential and actual use in human surgery as derived from clinical experience with over 100 patients. The techniques of cooling and warming, safety precautions, indications for use, surgical methods, and results are demonstrated.

Surgical Treatment of Gastric and Duodenal Ulcers.

LESTER R. DRAGSTEDT, HARRY A. OBERHELMAN JR., JOHN LANDOR, LESTER R. DRAGSTEDT II, EDWARD S. LYON, and HERZL RAGINS, University of Chicago, the School of Medicine, Chicago.

Duodenal ulcers are believed to be caused by a hypersecretion of gastric juice of nervous origin and gastric ulcers by a hypersecretion of humoral origin. The exhibit presents the results to date of the treatment of duodenal ulcers by vagotomy and gastroenterostomy, together with the incidence of complications and their treatment.

Partial Gastrectomy With or Without Vagus Resection for Duodenal or Marginal Ulcer.

LOUIS T. PALUMBO, THEODORE T. MAZUR, and BERNARD J. DOYLE, Veterans Administration Center, Des Moines, Iowa.

This exhibit presents indications and the percentage of patients with duodenal ulcer receiving surgery. The incision and basic technique employed in a series of about 250 cases is portrayed by colored transparencies. The morbidity and mortality rates are graphically compared in both groups, as are also the various factors in an over-all evaluation. Comparative studies of the changes in gastrointestinal motor functions are shown by roentgenographic transparencies. The final results in both groups are shown, and the policy adopted for the selection of patients for the combined operation of partial gastrectomy and vagus resection is presented.

Effect of Alpha Tocopherol on Vascular Lesions of the Extremities and Burns.

EVAN V. SHUTE and WILFRID E. SHUTE, the Shute Institute, London, Ontario, Canada.

The exhibit consists of transparencies and models illustrating the treatment of indolent ulcer and gangrene.

Gastric Diverticula.

DONALD M. CLOUGH and HENRY M. PERRY, Guthrie Clinic, Sayre, Pa.

The exhibit describes gastric diverticula and emphasizes their significance by describing the incidence, occurrence, etiology, signs, symptoms, diagnosis, and differential diagnosis. The condition can be disabling, and many patients in the past have been denied definitive treatment for this because of the technical difficulties in their surgical removal. A step-by-step technique for their surgical removal—simplified by employing a transthoracic approach—is portrayed. Typical cases, together with roentgenograms and results, are presented.

Chronic Relapsing Pancreatitis.

RICHARD B. CATTELL and KENNETH W. WARREN, the Lahey Clinic, Boston.

This exhibit demonstrates the ways and means of recognizing, evaluating, and treating chronic relapsing pancreatitis. Particular emphasis is placed on the choice and technique of various surgical procedures utilized in the management of this disease.

Fundamentals of Wound Healing.

PHILIP A. CAULFIELD and HOWARD S. MADIGAN, Georgetown University Medical School, Washington, D. C.

Colored illustrations show various errors in surgical technique that cause interference with wound healing. Additional information concerning fundamentals of wound healing is presented.

Efficacy of Preoperative Intestinal Preparation with Single and Combined Use of Antibiotics.

MAX B. MILBERG, EDWARD A. KAMENS, FELIX LEUCKOWICZ, and JESSE JAMPOL, Maimonides Hospital of Brooklyn, Brooklyn, N. Y.

The exhibit demonstrates a simplified rapid screening method of the intestinal flora and micro-organisms, antibiotic sensitivities in mixed culture. This technique was employed in studying the intestinal flora before and after preparation of the individual patients with single and combined use of antibiotics. Further comparative study was made in the postoperative course of patients.

Exploration and Reconstruction of the Common Bile Duct.

JOHN L. MADDEN, WILLIAM J. MCCANN, and JOHN M. LORÉ JR., St. Clare's Hospital, New York.

In the belief that internal splint supports or stents are foreign bodies that produce an undesirable tissue reaction, the necessity of their continued use in reconstructive surgery of the common duct is questioned. The exhibit demonstrates the technique and incidence of exploration of the common duct and the results of both a clinical and experimental study of the effectiveness of primary reconstruction of the common duct without the use of stent supports. The results of this study question the necessity of stents or prolonged catheter drainage in reconstruction of the common duct.

Section on Urology

The section exhibit committee consists of ROGER W. BARNES, Los Angeles, Chairman; GEORGE H. EWELL, Madison, Wis.; and NORRIS J. HECKEL, Chicago.

Diatrizoate Sodium: An Improved Medium for Excretory Urography.

THOMAS D. MOORE and RAYMOND F. MAYER, Memphis, Tenn.

The exhibit presents data pertaining to the chemistry, toxicity, excretion, and clinical use of diatrizoate sodium in 50% solution in approximately 500 patients. Reproductions of urograms are displayed.

Clinical Experiences with Three Hundred Fifty Patients Treated with Furadantin.

CHARLES E. FRIEDGOOD, Brooklyn, N. Y.

This exhibit reviews the results obtained in treating 350 patients with various types of urinary tract infections with furadantin. This group of cases includes a group of infants and children as well as adults, and a two year follow-up study is presented. The drug's chemistry, pharmacology, indications, dosage, as well as contraindications and side-reactions, are shown.

Nitrofurantoin in Urinary Tract Infections and Furazolidone in Trichomonas Infections.

PAUL F. MCLEOD, GEORGE S. ROGERS, and R. J. MAIN, Norwich, N. Y.

This exhibit describes the pharmacology and structure of nitrofurantoin. It depicts the correlation between blood and urine levels, clinical effectiveness and in vivo activity against the various organisms found in urinary tract infections. The correlation of bacterial sensitivity studies and clinical response is included, and the clinical results with furazolidone in the treatment of Trichomonas vaginalis vaginitis are depicted.

Ground Substance and Renal Calcification.

ROGER BAKER, Georgetown University School of Medicine, Washington, D. C.

A variety of diverse etiological factors may produce renal calcification. The data presented in this exhibit attempt to demonstrate a common obligatory mechanism in calculus disease, namely, a precalcific alteration in renal tubule mucopolysaccharide. Subsequent calcification is deposited only in these areas of altered ground substance.

Allen-Keltzer Modification of Skegg's-Leonards Artificial Kidney.

WALTER A. KEITZER and MANLEY L. FORD, Akron, Ohio.

The exhibit shows an artificial kidney with dialyzer attachment. Placards show results of the application of the artificial kidney to patients.

Nephrotomography.

JOHN A. EVANS, the New York Hospital, New York.

Nephrotomography is a radiographic technique combining rapid intravenous nephrography with body section radiography. Its value is the ability with which renal cysts can be differentiated from neoplasms.

Medical and Surgical Treatment of Cryptorchidism.

ROBERT J. PRENTISS, RALPH B. MULLENIX, JAMES M. WHISENAND, and MICHAEL J. FEENEY, San Diego, Calif.

The exhibit deals with medical and surgical treatment of the undescended testis. The timing of medical and surgical treatment is listed. The pertinent surgical anatomy and surgical principles are reviewed. The plan for establishment of testis biopsy banks for further study and correlation to determine the optimum time of transplantation of the testis is presented. Conclusions suggest that the testis should be transplanted by the fifth year of life. The authors' technique has the advantage of the application of the elimination of the lateral and inferior sides of the spermatic sur-

gical triangle. Chorionic gonadotrophins aid in increasing the size of the genitals for better technical execution of the operation but have not aided in causing consistent descent of the testis.

Discussion of Urology Exhibits

There will be a discussion of the exhibits in the Section on Urology. The following discussants will participate:

Wednesday, June 8

2:30 p. m. LOWRAIN E. MCCREA, Philadelphia.

Thursday, June 9

2:30 p. m. WILLIAM W. SCOTT, Baltimore.

MISCELLANEOUS EXHIBITS

The Anatomy of the Heart.

OSCAR V. BATSON, University of Pennsylvania, Philadelphia.

This exhibit is a collection of specimens of the human heart prepared by special techniques to demonstrate the points of anatomy of clinical interest. The collection shows the anatomy of the mediastinum, the pericardium, the arch of the aorta, the layers of heart muscle, the heart chambers, the heart valves, the coronary arteries, the coronary veins, the Thebesian veins, the bundle of His, and the heart lymphatics. The specimens have been prepared by dissection, by tanning, by wax imbedding, by injection followed by corrosion, and by injection followed by clearing. The methods of preparing the muscle specimens and the methods of injecting the heart lymphatics will be demonstrated on fresh animal hearts.

Effective Illustrations for the Oral Paper.

VERLIN Y. YAMAMOTO, Biological Photographic Association, New York.

Visual material is today recognized as an important adjunct to the oral paper; unfortunately, the quality standard of such visual aids is not universally high. An attempt is here made to outline criteria for effective lantern slides. Various methods and techniques are presented, with suggestions as to how these criteria may best be satisfied. Scaled representations of assembly rooms and screen-slide aspect ratios demonstrate physical limitations that must be recognized if illustrations and tabular material are to be comprehensible and legible to all parts of the audience.

Medical Illustration: An Essential Factor in Modern Medicine.

C. GRAHAM EDDY, and L. PAUL FLORY, Veterans Administration, Washington, D. C.

Medical illustration is planned communication, a necessary and integral function of any fully developed medical program. The specialized skills of the illustrator and the physician are blended in the medical illustration laboratory to produce, through a variety of mediums, expressions of medical information in comprehensive, concise, and realistic form. Effective planning, production, utilization, and preservation of medical illustration material is characterized by a synthesis of illustration techniques with medical and esthetic ideals distinctive to each medical program being served.

Improved Medical Education Through Art and Photography.

JACK P. ABBOTT, GENE DAVIS, and RICHARD C. MATTHIAS, the Methodist Hospital and Baylor University College of Medicine, Houston, Texas.

The exhibit shows transparencies of various combinations, including x-ray, photomicrographs, gross specimens, anatomic drawings, patient photographs, etc. All photographs are those of use in various teaching phases, including medical students, hospital house staffs, staff meetings, and postgraduate medical instruction. The exhibit points out the value of combining various material into one photograph and value of a visual education department in all institutions.

Vignettes of Medical History and Curiosity.

ELLA N. WADE and JOSEPH SUNNER, Mütter Museum, College of Physicians of Philadelphia, Philadelphia.

The exhibit presents an interesting display of photographs of selected exhibits from the Mütter Museum of the College of Physicians of Philadelphia, including rare pathological specimens from the past, old medical instruments and equipment, and a wide variety of curios.

How the World's Most Precious Fluid, Blood, Is Refined.

DAVID N. W. GRANT, the American National Red Cross, Washington, D. C.

This is a visualization of the laboratory fractionation processes involved in producing blood derivatives.

The National Formulary X.

ROBERT P. FISCHELIS, American Pharmaceutical Association, Washington, D. C.

This exhibit shows the new National Formulary X, with special emphasis on new products included in this edition. Information of interest to practicing physicians will be available in printed form.

The Examinations of the National Board of Medical Examiners.

JOHN P. HUBBARD, National Board of Medical Examiners, Philadelphia.

The exhibit depicts the recent developments in the preparation of objective multiple-choice examinations as now used by the National Board of Medical Examiners. Particular attention is given to (*a*) the manner in which more than 100 medical authorities from 46 medical centers have constructed the test questions, and (*b*) the types of questions designed to test the candidates not only on their factual knowledge but also on their judgment and their ability to apply their knowledge to the problem in hand. Sample questions will be available.

The Medical Audit.

ROBERT S. MYERS, American College of Surgeons, Chicago; VIRGIL N. SLEE, Hastings, Mich.; and ROBERT G. HOFFMAN, Ann Arbor, Mich., Southwestern Michigan Hospital Council.

The exhibit shows a new, practicable, and effective method by which the medical staff can conduct its own medical audit of the work done by all branches of medicine. The method is based on the premise that adequate hospital statistics will indicate the areas of medical practice most in need of scrutiny by the medical staff. Modern business machines are used in the statistical analysis of medical practice and for the preparation of disease, operation, and physician indexes for the medical records department. Forms that simplify medical staff analysis of the quality of patient care are shown. The business machines are part of the display.

Muscular Dystrophy.

MORTON D. SCHWEITZER, Muscular Dystrophy Association of America, Inc., New York.

The exhibit shows early postural changes and manifestations in advanced cases together with geographical distribution of research activity under grant-in-aid program. Childhood and adult forms and differential diagnosis are described.

Standard Nomenclature of Diseases and Operations.

ADALINE C. HAYDEN, Standard Nomenclature, American Medical Association, Chicago.

The exhibit shows organization of committees, how committees work, how inquiries are processed, and recommended methods of installation.

Medical Education.

EDWARD L. TURNER, EDWARD H. LEVEROOS, and CARL T. HEINZE, Council on Medical Education and Hospitals, American Medical Association, Chicago.

The exhibit displays data on medical education, registration and approval of hospitals, training of interns and resident physicians, technical hospital personnel, and medical licensure. Data is included pertaining to lists of approved medical schools, hospitals approved for internships and residencies, and approved technical schools.

Physicians Placement Service.

GEORGE W. COOLEY and DORRIS WEBB, Council on Medical Service, American Medical Association, Chicago.

The exhibit describes the operation of state and A. M. A. physician placement programs, including booklets and forms used, services available, and the locations of openings throughout the United States.

Increase Returns from Health Investments.

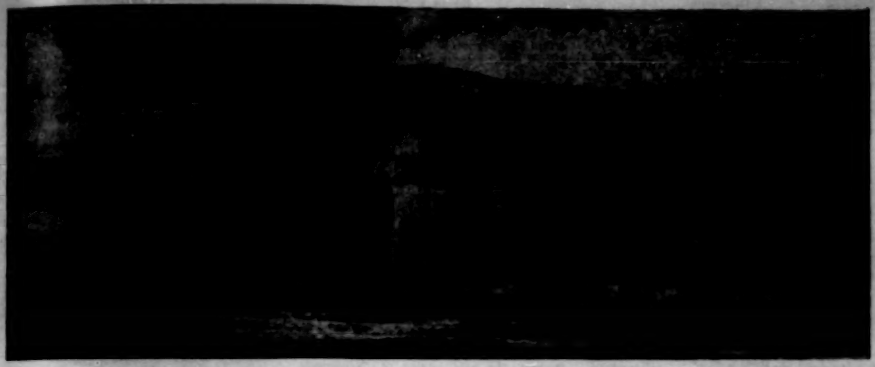
EDWIN J. GRACE, BEN LINDBERG, MAREA E. GRACE, Grace Clinic, Brooklyn, N. Y.

The result of 12 years' experience with a new approach to employee health programs is presented. This new-investment approach, involving complete medical services, centers in a family doctor approach, bringing together a private medical group, the personnel director, and the employee-patient, to develop his individual assets as well as removing his medical liabilities. The soundness of this more comprehensive approach is indicated by statistical data, by continued growth, and by satisfactions of the physician, the employee, and the employer. The practicability of this approach has been investigated, published, and used in teaching by university departments of public health and business administration. How to apply the strategic general principles involved will be outlined.

Improvised Hospitals for Civil Defense.

JOHN M. WHITNEY, Health Division, Federal Civil Defense Administration, Battle Creek, Mich.

If this country should be attacked by nuclear weapons, the existing hospitals, even if expanded, would be entirely inadequate to cope with the vast number of casualties to be expected. This exhibit, designed by the Federal Civil Defense Administration, is a complete 200 bed unit hospital, transportable on a single tractor-trailer truck. It weighs approximately 13.5 tons, contains some 288 different items, and will take up approximately 2,000 cu. ft. for storage. It can be assembled in about four hours by about 30 professionals and trained and untrained auxiliaries, requiring a minimum of some 15,000 sq. ft. of floor space. The hospital costs $36,500. The Federal Civil Defense Administration is stockpiling these hospitals which are available to the states on a matching fund basis.



A.M.A. TECHNICAL EXPOSITION

June 6-10, 1955
Atlantic City Auditorium

Medicine's broadening horizon is making new demands on the industries that serve it. Just as each year brings important medical advances, so too does each year bring a vast number of technical advances.

For these industries catering to medicine, the Technical Exposition is an opportunity to meet you personally or to renew old acquaintances. For *you* it is an opportunity to put your finger on the pulse of the new products—to discover for yourself their applications to your needs.

This year's Exposition of 350 exhibits reaches a new level in educational features. It covers virtually every field of medical and surgical science—from simplified aids to help solve the diagnostic dilemmas to improved therapeutics for enhancing the hands of healing.

The exhibits of these developers and distributors of your products demonstrate in various ways their service to medicine. Typical is the poliomyelitis information center booth —to answer questions on the new poliomyelitis vaccine.

The medical book displays offer a great fund of new knowledge and have many answers to problems met in everyday practice. Unique in usefulness too are the equipment exhibits with engineers and other experts on hand to discuss and dissect the new developments.

On the following pages you can get a glimpse of the individual exhibits and their locations. We hope you'll find time to visit all of them at your leisure. Open from 8:30 a. m. to 5:30 p. m. each day, except for Friday's noon closing, the Exposition offers an unequalled opportunity to see in one place the year's advances as set forth in the technical exhibits.

THOS. B. GARDINER
Business Manager and Director of Technical Exhibits

BOOKS

A. M. A. Publications
Booth G-29

Stopping by the display of A.M.A. publications, you can examine copies of the nine *SPECIALTY JOURNALS*, *THE JOURNAL A.M.A.*, *TODAY'S HEALTH* and education material prepared by the Bureau of Health Education. The display points up the advantages of membership and you are invited to make the booth a meeting place to talk over questions relating to A.M.A. membership.

American Medical Directory
Booth G-27

The coming Nineteenth Edition of the *AMERICAN MEDICAL DIRECTORY* is described in the informative circular available here. The circular illustrates new features that will appear in this 1955 Directory as it comes from the press later in the year. Order forms enable you to place an advance order for the new Directory at a special prepublication rate.

Appleton-Century-Crofts, Inc.
Booth A-29

The many interesting new books exhibited by Appleton-Century-Crofts, Inc., include new editions of Gonzales' *Legal Medicine*; Yater's *Fundamentals of Internal Medicine*; Maingot's *Abdominal Operations*; Morrison's *Ear, Nose and Throat*; and Kelly and Hite's *Microbiology*. In addition, the new Wakefield, *Clinical Diagnosis*, two *Practitioners' Conference* volumes from the New York Hospital Cornell Medical Center, and *The Physician and The Law* by Roland Long may be examined at your leisure.

Association of American University Presses
Booth K-27

Among the leaders in the field of nonfiction, the University Presses publish a large number of important titles each year—many of which gain lasting recognition as reference books and college texts. This exhibit gives you an opportunity to see the new books published by each press represented in the Association.

The Biological Sciences Foundation, Ltd.
Booth M-30

Featured in this exhibit are Volumes I and II of *Abstracts on Military and Aviation Ophthalmology* by Conrad Berens, M.D. and L. Benjamin Sheppard, M.D. Information on the compilation of Volume III and a Cumulative Index on military and aviation ophthalmology as well as reports on projects in the field of nutrition are also of interest.

The Blakiston Division
Booth A-8

Blakiston, now a division of McGraw-Hill Book Company, combines the lists of both publishers to bring to this meeting an unusually large selection of important medical and nursing books. Among the new books are Boyden's *Segmental Anatomy of the Lungs*; Fishbein's 1955 *Medical Progress*; Mellors' *Analytical Cytology*; Drill's *Pharmacology in Medicine*; White's *Principles of Biochemistry*; Aldrich's *Psychiatry for the Family Physician*; and Cruze's *Psychology in Nursing*.

Chicago Reference Book Company
Booth K-3

The Second Edition of Webster's *New International Dictionary* with Reference History highlights the exhibit in the east half of K-3. A compilation of many specialized dictionaries under one cover, such as Law, Medicine, Surgery, Horology, Engineering, Heraldry, etc., it equals a 20-volume encyclopedia in type matter and gives authoritative and concise answers to questions on any subject.

F. A. Davis Company
Booth E-30

The new releases featured by F. A. Davis are Dennen, *Forceps Deliveries*; Holland and Bourne, *British Obstetric and Gynecologic Practice*; and Flippin and Eisenberg, *Antimicrobial Therapy*. You are also invited to preview two coming releases: Berman, *Obstetrical Roentgenology*; and a new edition of Stroud, *Cardiovascular Disease*. Complimentary copies of the most recent monograph published for the loose-leaf *Cyclopedia of Medicine, Surgery and Specialties* are available.

Encyclopaedia Britannica, Inc.
Booth K-15

Encyclopaedia Britannica is announcing their biggest release in nearly 200 years. Sharing the honors in booth K-15 are the new 1955 Edition of *Encyclopaedia Britannica*, the *Yearbook* and the *World Atlas*. Sample research reports and a special exhibit offer are also of interest.

Encyclopedia Americana
Booth H-1

The result of an intensive five year revision program, the latest edition of *Encyclopedia Americana* is the highest achievement in its years of continuous publishing since 1829. You are invited to inspect this well-known reference work and to register for your complimentary copy of a colorful world atlas.

Grune & Stratton, Inc.
Booths A-7, A-9

G & S and their affiliate, Intercontinental Medical Book Corporation, bring you—for the first time in book form—the *J.A.M.A. Clinical Abstracts of Diagnosis and Treatment*. Careful selection and an emphasis on economy of words but not of ideas have produced this authoritative guide to the most up-to-date and significant work being done in medicine and surgery throughout the world. Sample pages of the *A.M.A. Exhibits*, which pictorially reproduces the scientific exhibits of this meeting, recent foreign works and their many other important books are also displayed.

Paul B. Hoeber, Inc.
Booth A-26

Browse at your leisure through the complete selection of Hoeber-Harper books. Distinguishing their display of the very newest releases, Baker's 3-volume *Clinical Neurology* with contributions by 65 authors is being shown for the first time. Other important new books include Werner's *The Thyroid*; Dunham's *Premature Infants* (2nd Edition); and Hollinshead's *Anatomy for Surgeons* (Volume I).

Lea & Febiger
Booth A-22

The Lea & Febiger exhibit features these new books and new editions: Pullen, *Pulmonary Diseases*; Twiss and Oppenheim, *Practical Management of Disorders of the Liver, Pancreas and Biliary Tract*; Merritt, *Neurology*; Bailey, *Surgery of the Heart*; Jonas, *Babcock's Surgery*; Ritvo, *Bone and Joint X-Ray Diagnosis*; Herbut, *Pathology*; Davidoff and Epstein, *The Abnormal Pneumoencephalogram*; Master, Moser and Jaffe, *Cardiac Emergencies and Heart Failure*; Fleming, D'Alonzo and Zapp, *Modern Occupational Medicine*; Hardy, *Fluid Therapy*; and Ormsby and Montgomery, *Diseases of the Skin*.

J. B. Lippincott Company
Booths B-24; C-23

J. B. Lippincott Company presents a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than 100 years of traditionally significant publishing.

Little, Brown & Company
Booth B-6

The more than 40 books published since the Medical Department of Little, Brown & Company was established two years ago make an interesting display. Special attention is called to such recent and forthcoming publications as Homburger, *The Medical Care of the Aged and Chronically Ill*; Keefer and Leard, *Prolonged and Perplexing Fevers*; Barborka and Texter, *Peptic Ulcer*; and *The Biological Effects of Tobacco*. Among the books of interest to the layman are *Expectant Motherhood* by Dr. Nicholson J. Eastman and *Understanding Your Son's Adolescence* by Dr. J. Roswell Gallagher.

MD Publications, Inc.
Booth K-8

MD Publications displays these medical journals devoted to advanced clinical and research reports: *Antibiotics and Chemotherapy*; *Antibiotic Medicine*; *International Record of Medicine and General Practice Clinics*; *Journal of Clinical and Experimental Psychopathology and Quarterly Review of Psychiatry and Neurology*; *MD; Quarterly Review of Pediatrics*; and *Quarterly Review of Surgery, Obstetrics, and Gynecology*. Featured books include: *Antibiotics Annual* (1953-54 and 1954-55 Editions); *Antibiotic Monographs*; and *Principles and Practice of Antibiotic Therapy*.

Mack Publishing Company
Booth M-8

Representatives of the Mack Publishing Company will be pleased to welcome you in the east half of booth M-8. Information regarding the Eleventh Edition of Remington's *Practice of Pharmacy* and the Fifteenth Edition of the *U. S. Pharmacopeia* is presented.

The Macmillan Company
Booth G-26

The Macmillan exhibit features the recently published second edition of Goodman and Gilman's *Pharmacological Basis of Therapeutics*. Also on display are the latest of the *Cornell Conferences on Therapy*, Volume VII, and the new edition of Borstein's *Fundamental Considerations in Anesthesia*.

The C. V. Mosby Company
Booth B-10

Visitors are cordially invited to browse through the many new and recently revised titles on display in the Mosby booth. Representatives will be on duty at all times to assist you and will be glad to have you stop by for a moment of relaxation in their comfortable accommodations.

Oxford University Press, Inc.
Booth E-5

Oxford University Press, now in its 476th year, presents its full list of modern medical publications. New titles and newly revised editions include Lisa and Rosenblatt's *Cancer of the Lung*; Gargill and Leskes' *Diseases of the Thyroid Gland*; Parsons and Barling's *Diseases of Infancy and Childhood*; Brain's *Diseases of the Nervous System*; and Hill's *Principles of Medical Statistics*.

Postgraduate Medicine
Booth M-29

Postgraduate Medicine, the official journal of the Interstate Postgraduate Medical Association of North America, watches the whole world of medicine to bring the profession the significant authoritative advances. 40 members of their Editorial Board, under the guidance of Dr. Charles W. Mayo, analyze these clinically tested advances, giving the practicing physician the most meaningful things—tersely, pointedly and graphically. These monthly releases are presented in the east half of booth M-29.

W. F. Prior Co., Inc.
Booth L-24

W. B. Saunders Company
Booths A-10, A-12

Saunder's important contribution to this A.M.A. Meeting is highlighted by these books being shown for the first time: Williamson, *Office Procedures;* Modell, *Relief of Symptoms; Cardiovascular Surgery;* and *Proceedings of the International Symposium* held at the Henry Ford Hospital. Also new, and of special clinical appeal, are Cecil-Loeb, *Medicine;* Greenhill, *Obstetrics;* Boyd, *Pathology for the Surgeon;* Deutschberger, *Fluoroscopy;* Masserman, *Psychiatry; 1954 Surgical Forum;* and *Current Therapy 1955.*

Springer Publishing Company, Inc.
Booth J-3

Among the new books shown are two of wide interest: *Should the Patient Know the Truth?* edited by Standard; and Nathan and Modell's *Drugs in Current Use 1955,* an annual publication. Canetti's *Tubercle Bacillus* and a large color *Atlas of Hematology and Clinical Cytology* by Heilmeyer and Begemann are important books just ready in time for this meeting.

State Journal Advertising Bureau
Booth G-31

The State Journal Group is comprised of 33 state medical journals which represent 37 state medical societies. Prospective advertisers are invited to stop at the S.J.A.B. booth to secure sample copies, the current rate card and other literature.

Charles C Thomas
Booth A-31

Publishing over 100 titles each year, Charles C Thomas have enlarged their exhibit to accommodate their many outstanding books in all fields of medicine. Among the new and standard releases featured are: Major's *History of Medicine;* Diethelm's *Treatment in Psychiatry* (2nd Edition); Jones's *Postural Complex;* Steindler's *Kinesiology;* and White and Sweet's *Pain.*

The Williams & Wilkins Company
Booths B-21; G-16

The Williams & Wilkins Company, publishers of medical and scientific books and periodicals, has divided its exhibit between two separate booths for your convenience. Booth B-21 features recent W & W books while booth G-16 is entirely devoted to W & W's 35 journals, including five British periodicals.

World Book Encyclopedia
Booth M-26

The more than 10,000 pages and 20,000 pictures —over 2,900 in full color—contained in the 19-volume *World Book* are the topic of conversation in the west half of booth M-26. Published by Field Enterprises, Inc., this up-to-date encyclopedia is easy to use *and* easy to understand since all articles are "grade leveled" to meet the student where he meets the subject.

The Year Book Publishers, Inc.
Booth D-15

Among a wealth of current and practical manuals, monographs and tests, Year Book Publishers display a large number of new books of real usefulness in clinical practice. If you have not yet examined the *New Disease-a-Month* clinical monographs, you can learn here why this new and unique reading service is becoming so popular.

The Yorke Publishing Company, Inc.
Booth N-25

In the west half of N-25, Yorke Publishing features recent copies of *The American Journal of Medicine* and *The American Journal of Clinical Nutrition,* including the recent Symposia numbers on "Newer Aspects of Antibiotics" and "The Antimetabolites." Internists and nutritionists will be especially interested in the wide coverage offered by these publications.

DIAGNOSTIC DEVICES

American Cystoscope Makers, Inc.
Booths I-9, I-11, I-13, I-15, I-17

American Cystoscope Makers, Inc. extend a cordial invitation to members and guests to visit their extensive exhibits. A complete line of catheters are on display as well as electrically-illuminated diagnostic and operating instruments, accessories and electro-medical equipment. Representatives will appreciate the opportunity to demonstrate their instruments.

W. A. Baum Co. Inc.
Booth F-8

This display and demonstration of the Lifetime Baumanometer is directed to the interest of every doctor concerned with bloodpressure measurement. Cuffs and instruments specially designed for particular needs combine to make a varied and complete picture of bloodpressure apparatus. Representatives will be on hand to discuss any individual problems.

Beck-Lee Corporation
Booth E-10

Highlighting Beck-Lee's display of precision instruments is their outstanding Cardi-All direct-writing electrocardiograph. Their electronic engineers will be happy to discuss with you the many unique features of this unit—the automatically controlled electronic circuits, the simplicity of operation, its portability and excellent writing characteristics. The Beck-Lee true quartz string-galvanometer electrocardiographs, Model E and Model ERA, are also being shown.

Burton Manufacturing Company
Booth D-7

The entirely new and unique Burton Manotest, a development of many years of research, distinguishes the exhibit in the west half of D-7. Being shown for only the second time at an A.M.A. meeting, many of you will find this pocket-size 300 mm. mercurial sphygmomanometer a noteworthy item.

Cambridge Instrument Company, Inc.
Booth M-17

Of special interest here are: the new Cambridge Audio-Visual Heart Sound Recorder; the well-known portable direct-writing Simpli-Scribe Electrocardiograph; and standard string-galvanometer electrocardiographs, both the portable Simpli-Trol and the cabinet Mobile Electrocardiograph-Stethograph with Pulse Recorder models. Among the other important Cambridge instruments exhibited are the Operating Room Cardioscope; Educational Cardioscope; Multi-Channel Direct-Writing Recorder; Electrokymograph; Plethysmograph; and pH meters.

The Denver Chemical Mfg. Co., Inc.
Booth H-14

Representatives at the Denver Chemical Company's booth will demonstrate Sugar Test-Denco and Acetone Test-Denco. Both reagents are standard spot tests in routine urinalysis for diabetes control. Also exhibited is Duncotar Shampoo, a recent Denver product containing processed coal tar for adjunctive therapy in such scalp conditions as seborrheic dermatitis.

Edin Company, Inc.
Booth D-1

At this meeting Edin Company, manufacturer of a complete line of electro-medical diagnostic and research instruments, is introducing its Electronic Vasculator designed to improve circulation immediately following operative procedures. The well-known Edin Eight-channel Electroencephalograph is also an important part of the exhibit.

Electro-Physical Laboratories, Inc.
Booth H-2

Sharing the spotlight in booth H-2 are the Cardiotron, a most advanced EKG unit, and the Meta-Basal Portable, which combines simple operation and portability with high accuracy. Electro-Physical Laboratories cordially invite you to register for the attractive electric blanket on display in their booth.

Electro Surgical Instrument Company
Booth K-7

Representatives in the west half of booth K-7 will welcome the opportunity to demonstrate their line of electrically-lighted diagnostic instruments including: bronchoscopes; Holmes nasopharyngoscopes; transilluminators; proctosigmoidoscopes; urethroscopes; rheostats; and many other new items being shown for the first time.

The Graf-Apsco Company
Booth L-29

If you have any microscope problems, The Graf-Apsco Company, one of America's leading microscope repair houses, suggests you stop by the west half of booth L-29; Representatives are also interested in securing obsolete models. The new Graf-Apsco microscopes with exclusive features designed into the stand to keep the instruments in good working order are prominently displayed.

Karl Heitz, Inc.
Booth J-7

Karl Heitz, Inc., importer of high precision microscopes, scientific instruments and cameras is one of this year's new exhibitors. Among the items arranged for your examination are Bleeker microscopes for research and all-purpose use as well as an inexpensive model for students; Bleeker pocket spectroscope and refractometers; Kern Swiss prismatic binocular low power microscope; Kern Swiss colpograph; Projectina combination microscopic viewer-projector-camera; Omag pocket microscope; and Alpa camera for medical close-up and microscopic photography.

Keeler Optical Products
Booth L-27

A new line of diagnostic sets, shown for the first time in the United States at the 1954 meeting of the American Academy of Ophthalmology and Otolaryngology, is being demonstrated in booth L-27. Information is also available on the Grey Wedge Photometer developed in conjunction with the British Medical Research Council.

National Electric Instrument Co., Inc.
Booth A-27

Visitors to booth A-27 will find that National is showing its whole range of diagnostic instruments including proctology sets, headlights, ophthalmoscopes, otoscopes, cautery sets, electricators, cystoscopes, and resectoscopes.

Sanborn Company
Booth E-19

Distinguishing the Sanborn exhibit is a continuous demonstration of their new Viso-Scope, a 5-inch cathode ray oscilloscope, specially designed for monitoring or visualizing ECG's and other biophysical phenomena which may be recorded via Sanborn recording systems. Clinical use instruments being shown include the Viso-

Cardiette, direct-writing electrocardiograph; the Metabulator, self-enclosed metabolism tester; and the Twin-Beam, two-channel photographic recorder. Those interested in research may wish to investigate the new 150 Series Direct-Writing Recording Systems and the Electromanometer.

Schieffelin & Co.
Booth F-32

Schieffelin's booth is specifically designed to demonstrate use of their new diagnostic aid for inflammatory conditions, C-Reactive Protein Antiserum (CRPA). Although this test will most commonly be run in the laboratory, a method for routine office procedure is also demonstrated. Representatives will be glad to discuss the application of this test to all inflammatory diseases and its particular value in the diagnosis and prognosis of conditions such as rheumatic fever and myocardial infarction.

Taylor Instrument Companies
Booth E-8

The Taylor exhibit features the well-known Tycos Aneroid blood pressure instruments including the pocket, desk and wall models. The "break-down test panel" is again presented as proof of the long life and accuracy of the Pocket Tycos Aneroid mechanism. The Tycos Mercurial Sphygmomanometer is also an important part of their exhibit.

Universal Products Corporation
Booth F-29

A handy, pocket-size diagnostic kit will interest visitors to the Universal Products Corporation booth. The Surgeons X. L. Lyte is emphasized as being the most adaptable item to be found for the doctor's bag or office.

Welch Allyn Inc.
Booth D-9

Welch Allyn call your attention to two new items being shown this year: a sanitary polyethylene diagnostic instrument case; and the Welch Allyn Professional Flashlight. In addition, a complete line of electrically illuminated diagnostic instruments are available for inspection and demonstration.

DIETETIC PRODUCTS

Adolph's Ltd.
Booth E-3

Adolph's Salt Substitute, one of the best tasting salt substitutes available, and Adolph's Low-Sodium Meat Tenderizer, together with the original Adolph's Meat Tenderizer reported in Reader's Digest, are sharing honors in booth E-3. You are invited to register for your supply of patient samples.

Beech-Nut Packing Company
Booth H-12

"Convenience" is the theme of the Beech-Nut exhibit in H-12. With more and more prepared foods being used everyday, Beech-Nut offers some interesting information on new ideas for the use of their Strained and Junior Foods in adult diets.

The Best Foods, Inc.
Booth D-5

Sharing the spotlight here are many of the fine Best Foods products: Hellmann's and Best Foods Real Mayonnaise; French Dressing; Old Homestead French Dressing; Relish Sandwich Spred; Best Foods Mustard with Horseradish; Fanning's Bread & Butter Pickles; and Nucoa Margarine, the first yellow margarine with food value in every single ingredient. Representatives will welcome your questions on the properties and uses of their products.

The BiB Corporation
Booth I-3

Visual and refreshing treats are in store for visitors to booth I-3. An exact scale model, containing over 1,000 workable parts, of the BiB Corporation canning plant is the eye-appealing center of interest. Informative literature on the new BiB Apple Juice with Acerola Juice and on their well-known Orange, Orange-Apricot and Prune-Orange juices is available. Ice cold samples provide the taste-appeal.

Borcherdt Malt Extract Company
Booth M-29

Borcherdt features Malt Soup Extract, a gentle, nutrient malt laxative for softening hard, dry stools of infants, children, and older adults by dietary means. Samples are being served in both coffee and milk to demonstrate how easy and pleasant it is for either adults or children to take.

The Borden Company
Booths J-22; K-21

Babies, children and adults—all will benefit by what Borden's has learned about their nourishment. For almost a century, Borden's and their nutritional specialists have been working hand-in-hand with the medical profession in the interests of public health and better nutrition. Representatives at the booth will welcome an opportunity to discuss Borden products with you.

Carnation Company
Booth I-10

Carnation Company is proudly presenting the first instant nonfat dry milk in a crystal form. Marking a great advance in the dairy industry, Carnation Instant is an excellent, economical source of protein—a delicious new food for low-fat, high-protein diets. Representatives will welcome an opportunity to show you how it dissolves instantly, even in ice water, and you are invited to sample its fresh milk flavor.

The Coca-Cola Company
Booth D-29

Ice-cold Coca-Cola is being served through the courtesy and cooperation of the Coca-Cola Bottling Company, Atlantic City and the Coca-Cola Company.

Corn Products Sales Company
Booth L-9

Booth L-9 features Karo Syrup as an outstanding milk supplement in infant feeding and an important source of carbohydrate food energy "right through life." Technical men in attendance will be pleased to answer questions regarding the use of this fine product.

The Cream of Wheat Corporation
Booth K-30

The familiar enriched Quick Cream of Wheat and the Regular Cream of Wheat merit your attention in the west half of K-30. A worthwhile diet folder, vitamin food chart and baby leaflet, *Commonsense Feeding Habits for Your Baby*, will be mailed or given to all physicians who register at the booth. Samples of Zing, stabilized wheat germ, and literature on its use are also available.

The Dietene Company
Booth D-13

Have you tasted Meritene, a whole protein supplement that *does* taste good? Visit booth D-13 and enjoy a Meritene milk shake with its multiple nutritive values. While you're there, review the Dietene Diet based on Dietene Reducing Supplement. It provides the rare combination of low caloric content with high intake of protein and all essential vitamins and minerals in an interesting, effective and safe weight reducing diet.

Evaporated Milk Association
Booth J-30

A new reference bulletin reviewing the literature on the early feeding of solid foods is the most recent addition to the many informative publications offered by the Evaporated Milk Association. For your patients, there are interesting booklets on the prenatal diet, formula preparation, feeding the aged and general nutrition. These useful publications are furnished without charge to doctors registering at the booth.

Gerber Products Company
Booth C-9

An important contribution to this meeting is the introduction of Gerber's Meat Base Formula. Closely approximating evaporated milk in nutritional values, it is an easy-to-use adaptation of Dr. Albert H. Rowe's substitute formula for cow's milk containing strained meats, which proved valuable in the study of animal milk allergy in infants and children. The well-known Gerber's Baby Foods and informative literature for your patients complete this interesting exhibit.

Golden Guernsey, Incorporated
Booth I-31

Visitors to booth I-31 may sample refreshing Golden Guernsey Milk, and receive their copies of the new Golden Guernsey Milk Weight Reducing Diet. Attractive toy cows for your youngsters and measuring glasses are offered as mementos of their exhibit.

H. J. Heinz Company
Booth G-8

A new baby teething biscuit, which H. J. Heinz Company cites as also important in nutritional value, is being displayed along with the complete line of Heinz Baby Foods. Shaped like a horseshoe with a gentle curve and thickness suited to baby fingers, their Teething Biscuit is baked firm and does not crumble. Heinz Strained and Junior Meats, packed in glass jars, their Strained and Junior Foods, Pre-Cooked Cereals and Strained Orange Juice are also exhibited.

Jackson-Mitchell Pharmaceuticals, Inc.
Booth D-6

At booth D-6 you can taste-test ice cold samples of palatable Mayenberg Evaporated Goat Milk. Another high-light of their exhibit is Hi-Pro, a specially processed high-protein, low-fat, powdered milk. New information on the use of both of these featured products is available.

"Junket" Brand Foods
Booth I-14

The importance of rennet-custards in the diets of children and adults is stressed in the "Junket" display. Here, you can obtain literature on the enzyme rennet and the nutritional value and dietary uses of rennet desserts. Recipes and additional information on "Junket" Rennet Powder and Tablets will be sent to you on request.

Kellogg Company
Booth G-28

Nutritive value figures for all of Kellogg's ready-to-eat cereals are presented in the recently revised folder, *Nutritive Values-Purchasing Guide*. Special diet publications are also available for your inspection and use at the Kellogg booth.

Charles B. Knox Gelatine Co., Inc.
Booth F-13

Greatly simplified and effective methods for reducing and staying reduced on a complete diet, and also for planning the diabetic diet, are described at the Knox Gelatine Company exhibit. New and interesting literature for the patient as well as the famous Knox Gelatine recipes are available.

Loma Linda Food Company
Booth C-27

The new Soyalac Infant Food is presented here for your consideration as an aid in solving many feeding problems—especially those related to allergy. Representatives will be happy to serve you a sample of flavorful Soyalac and to discuss the uses of this hypo-allergenic food in infant, child and adult special diets.

M & R Laboratories
Booth M-16

Your Similac representatives are pleased to take part in this meeting and to have the opportunity to discuss with you the role of Similac in infant feeding. Physicians visiting their booth will find the latest Pediatric Research Conference reports as well as current reprints of pediatric nutritional interest.

Mead Johnson & Company
Booths D-22, D-23, D-24

Featured here are Lactum, Mead's ready prepared formula for infants with an extra protein margin of safety; Liquid Sobee, Mead's hypo-allergenic infant formula; Lytren, oral electrolyte product; and Sustagen, a complete therapeutic food for tube and oral use. Mead's full line of parenteral solutions and related administration equipment completes the exhibit.

Minute Rice & Minute Tapioca
Booths K-12, K-14

Visitors are invited to register here for special recipe material on the use of Minute Rice and Minute Tapioca in various diets. An assortment of recipes for use in your home will also be sent upon request.

National Dairy Council
Booth G-15

The National Dairy Council exhibit highlights the results of a research project on weight control conducted at Michigan State College. Typical meals from diets used in the study are featured and diet prescription pads as well as supplementary information about the research is available to doctors. You will also find other interesting nutritional education material included in their display.

National Live Stock and Meat Board
Booth A-29

The recommended daily food intake for adequate nutrition of teenagers, showing their needs for protein and other nutrients to be one-third to one-half more than that of their parents, is the subject of much conversation in booth A-29. A display of nutrition education materials which may be secured upon request has also been arranged for your convenience.

Nestle Company, Inc.
Booth J-16

Pepperidge Farm, Inc.
Booth K-2

The Pepperidge Farm exhibit emphasizes the high-protein content of Pepperidge whole wheat bread—made from stone-ground, unprocessed flour. Delicious rolls, herb-seasoned stuffing and white bread made from unbleached flour complete their array of appetizing products.

Pepsi-Cola Company
Booths L-3, L-5, L-7

Following its long tradition of refreshing service, the Pepsi-Cola Company again takes pleasure in being host to all visitors attending this A. M. A. Meeting—serving ice cold Pepsi, "the light refreshment."

Pet Milk Company
Booths L-21, L-23

Pet Milk Company's attractive exhibit features a miniature working model of an evaporated milk plant and offers an opportunity to obtain important information about the new Instant Pet Nonfat Dry Milk. Representatives will also be pleased to discuss Pet Evaporated Milk and the many time-saving Pet Milk services available to physicians. Miniature Pet Milk cans will be offered to physicians visiting their display.

Postum & D-Zerta
Booths K-14, K-16

Representatives of the General Foods Corporation are looking forward to serving you a delicious, refreshing Postum milk shake. Instant Postum, a favorite cereal beverage made from wheat, bran and molasses is feautred in both regular and coffee flavors. D-Zerta, a saccharin-sweetened, fruit-flavored gelatin for diabetic and other low-calorie diets is also displayed. Professional samples and product information may be obtained by registering here.

Ralston Purina Company
Booth D-14

Dietary services that are available to you free of charge are displayed at the Ralston Purina Company's booth. You are invited to stop and examine the Medical Services Kit and to place your order for material. Among the material helpful to your patients, you will find nutritionally sound low calorie, allergy and pregnancy diets, and feeding directions for infants and children.

Sanka Coffee
Booths L-13, L-15

General Foods Corporation invite you to stop by for your morning cup of Instant Sanka—100% pure coffee and 97% caffein-free. Visitors who register at their exhibit will receive a professional sample and the leaflet, *What Every Coffee Lover Should Know About Caffein.*

The Seven-Up Company
Booth O-26

If you want a quick, refreshing lift with a cool, clean taste, the Seven-Up Company suggests you visit booth O-26 to "Fresh-Up with 7-Up." Representatives will be happy to serve you a chilled bottle of crystal clear 7-Up.

Sugar Information, Inc.
Booth M-30

Literature describing the production, refining and distribution of sugar; presenting reports on the research projects sponsored by Sugar Information, Inc.; and citing the merits of sugar as a dietary item is featured in the east half of booth M-30. Representatives will welcome the opportunity to discuss these publications with you.

Sunkist Growers
Booth N-11

Sunkist Growers' educational exhibit calls attention to the excellent nutrition supplied by fresh whole oranges, especially the protopectins and bioflavonoids. Copies of the monograph covering the recent New York Academy of Sciences' Conference on the Bioflavonoids are available. The use of fresh lemon juice as the flavoring in salt-restricted diets is also discussed here.

Swift & Company
Booth G-21

Swift's Strained Chicken for Babies, the newest addition to Swift's Baby Foods products is presented in booth G-21. Swift's Strained Chicken offers the same high quality protein and essential nutrients that the other seven varieties of strained meat items supply, and its pleasant, mild, new flavor will make a delicious taste-tempting change for your infant patients.

Tasti-Diet Foods, Inc.
Booth M-26

Texturized, noncalorically sweetened foods ranging from luscious canned fruits and tangy dressings to gelatin desserts and puddings are displayed by Tasti-Diet Foods, a division of Flotill Products, Inc. Copies of the interesting brochure *Tillie Lewis Tasti-Diet 21-Day Menu Plan* can be secured for distribution to your patients.

The Wander Company
Booth G-3

You are cordially invited to stop here for a drink of delicious Ovaltine. Attendants will gladly answer any questions you may have about the composition, merits and usefulness of the product. Valuable informative literature on nutrition is also available for distribution.

HEARING AIDS

Audivox, Inc.
Booth E-6

Audivox, successor to Western Electric Hearing Aid Division, is displaying their latest Audiometers and complete line of hearing aids. Their exhibit features a demonstration of the new "sub-miniature" Audivox which may be worn in the hair, attached to glasses, as a tie clip or even like a wrist watch.

Maico Company
Booth M-8

Zenith Radio Corporation
Booth F-24

The Hearing Aid Division of Zenith Radio Corporation is exhibiting its complete line of high quality, low-cost transistor hearing aids. Representatives will be glad to demonstrate the instruments, answer your questions and explain how any physician may test a Zenith hearing aid for thirty days at no cost or obligation. As an added service, Zenith is offering copies of reprints selected to provide useful information to parents and teachers of children with impaired hearing.

OFFICE EQUIPMENT AND FURNITURE

W. D. Allison Company
Booths J-12, J-14

Fine styling, functional efficiency and cabinet making art are keynoted in the Fleetwood and Windsor examining-room furniture being displayed here. The famous Hanes Proctologic Table is an additional feature of interest.

A. S. Aloe Company
Booth C-29

A. S. Aloe Company are showing a cross section of their most complete line of physicians' and hospital supplies and equipment. New Steeline treatment room pieces are being introduced at this meeting and many other items too are displayed for the first time.

American Sterilizer Company
Booth G-25

The DV-22, designed specifically for use with television, presents an entirely new concept in surgical lighting for discussion in booth G-25. A demonstration of the well-known Model 1080 Operating Table emphasizes the addition of a complete set of headrests for neurosurgery. The third highlight of their exhibit is the narrow width obstetrical table which permits a more accessible approach for Cesarean section. In addition, a complete line of office sterilizers is being shown.

Brooklyn Hospital Equipment Co., Inc.

Booth L-30

Their new and improved line of physicians' examining room furniture in the latest decorator color combinations lends eye-appeal to the Brooklyn Hospital Equipment Company's booth. Included in the attractive display are the new Lorenz Treatment and Examining Table with an exclusive patented head section control; newly designed cabinets; and other items for the physician's suite.

Wilmot Castle Company

Booth E-26

Demonstrations of the new 60 Series major operating lights with delicate "feather touch" mobility and the new Radiant Energy Sterilizer, for automatic dry sterilization of sharp surgical instruments, make the Castle exhibit one of distinct importance. Among their other valuable contributions to this meeting are an explosion-proof light for use in head mirror surgery; the Castle line of explosion-proof safelights; and a high-speed, easily operated office autoclave.

H. Collins Company

Booth A-6

The attractive and unique physician's desk displayed here features a built-in patient's chair. This efficient desk also incorporates a convertible cabinet for storage of medicines or use as a bookcase; a medical aid panel containing standard supplies and a sphygmomanometer; a file rack; and drawer space. The advantages in having frequently used equipment at arms length are important space- and time-saving points to remember.

Colwell Publishing Company

Booth C-2

Efficient office management as the key to a smooth running practice is the theme of the Colwell Publishing Company exhibit. The well-known Daily Log is offered as an economical, standardized system for keeping records of the business side of practice. History and account forms, stationery and appointment books are also displayed for your convenience. Representatives will be glad to discuss the problems of day-to-day routine.

Dictaphone Corporation

Booth B-7

The Power Control Dictaphone Time-Master—with *all* dictating controls on the hand microphone itself—is the attraction in booth B-7. Among the features of Power Control, presented as a pioneering advancement in electronic dictation equipment, are the centralized start-stop switch; continuous recording lock; quick-review playback button; correction marker and length-of-letter marker. Additional Time-Master dictating and transcribing equipment and the Dictaphone Telecord System of network dictation by phone are also featured.

Thomas A. Edison, Incorporated

Booths K-26, K-28

Thomas A. Edison, Incorporated, long established as a manufacturer of fine dictating equipment, asks you to try for yourself the handsome and versatile VP Edison Voicewriter exhibited here. The VP enables you to dictate on-the-spot case reports in your office or in your car immediately after calls. So slim it fits into a briefcase, the rugged VP weighs only 12 pounds. A visit to the Edison exhibit will show you how useful and easy-to-use the new VP really is.

General Electric Company

Booth N-7

The Major Appliance Division of General Electric Company offers a demonstration of the mechanical operation and filtering efficiency of the G-E Room Air Conditioner. Representatives will be glad to have you stop by for informative literature and remind you to register for the Room Air Conditioner presented each day.

The Gray Manufacturing Company

Booths G-32; H-31, H-32

The Gray Audograph Model V is being shown for the first time at an A. M. A. meeting. Incorporating all of the features of the well-known Audographs exhibited previously it has many new improvements to make it even more desirable for the busy medical man. All controls are now on the microphone for quick reviewing and correcting, and new electronic principles of mechanism place it among the most modern of recording devices. The many new features of the Gray PhonAudograph telephone dictation systems are also pointed out in their display.

Hamilton Manufacturing Company

Booths I-6, I-8

The Hamilton exhibit stresses the contrast between the drab and limited examining room equipment with few conveniences that was the doctor's only choice in years past and the wealth of colorful, efficiently designed professional equipment engineered today to brighten your office and provide "miracles" in working conveniences. The results of this revolutionary change in the industry are typified in the attractive Hamilton equipment.

International Business Machines

Booth M-10

Their latest Executive Model Electric Typewriters are being shown by International Business Machines Corporation. The exclusive proportional spacing principle and uniformity of impression combine to give typewritten work the appearance of a printed page. Any of the fifteen type styles available on the IBM Executive Electric Typewriter can give your correspondence new beauty and distinction.

D. A. Kadan Co., Inc.

Booth D-7

On display at the D. A. Kadan Co., Inc., booth are their latest models in cabinet autoclaves, portable autoclaves, all-metal pediatric tables, examination tables and many other interesting items. Representatives are looking forward to meeting A.M.A. members and visitors and will welcome the opportunity to show you the newest advances made in the DAK line.

Medical Case History Bureau

Booth G-6

A handy, compact method for keeping patients' complete cases histories is featured here. The Info-Dex Record System includes charts so arranged that subsequent cards may be attached in correct sequence and an automatic diagnostic cross-indexing. Different colored cards for various types of data, such as obstetrical, laboratory, x-ray findings, etc. are obtainable. Steel filing cabinets for these history charts and bookkeeping records are also displayed. Those concerned with tumor clinics or cancer registries will find a new and efficient record system of interest.

Miles Reproducer Company, Inc.

Booth L-12

Case histories, lectures and dictation may be recorded at a 60-foot radius with Walkie-Recordall, an eight pound self-powered recorder-transcriber. Operating in or out of the closed briefcase, indoors or outdoors, its Voice-Activated Self-Start-Stop feature automatically starts and stops the recording from microphone or telephone. While facilities for transcribing are available, transcription may be eliminated due to ease of handling the indexed recordings.

The Pelton & Crane Company

Booth B-25

The high speed autoclaves exhibited by Pelton & Crane are distinguished by the fact that they need not be attached to plumbing lines or central steam supply. These self-contained units, shown here in three sizes, generate and store steam in a reserve chamber so that it is then available whenever needed.

Professional Printing Company, Inc.

Booths J-32; K-31

Professional Printing Company, Inc., manufacturers of printed items and office supplies designed exclusively for the medical profession, feature their complete line of famous Histacount products including stationery, patient's records, bookkeeping systems, files and filing supplies. Actual samples of all items have been arranged for convenient examination and study. They cordially invite you to drop by booths K-31 and J-32 located in the rear of the northwest section, Aisle J, leading to the Scientific Exhibits.

Remington Rand, Inc.

Booth L-25

New developments in the field of electronic computation are shown by Remington Rand: a Tabulating Card Key Punch and an Electronic Sorter. The versatility of these machines and the speed at which they work must be seen to be believed. You can see them in action in booth L-25.

Ritter Company Inc.

Booth H-25

In booth H-25 you will see Ritter's motor, hydraulically tilted and elevated proctologic table designed for office and hospital use. Other products on display include examination and surgical tables which permit all-level procedures with "touch of the toe" motor-hydraulic ease; and a complete line of ENT suites, sterilizers and surgical table accessories.

Shampaine Company

Booth J-10

Shampaine invites you to see Steelux I.D., their line of physicians furniture that exemplifies true integration of beauty and efficiency. Their colorful display offers a multitude of ideas for interior decorating and examining-room convenience.

Sound Scriber Corporation

Booth K-9

Walton Laboratories Incorporated

Booth B-3

The important topic of humidification is being discussed in booth B-3. The Walton Cold Steam Humidifiers being shown are suitable for use in hospitals, residences and offices. In addition, they are introducing the newly developed Model WF especially designed for use with forced hot air furnaces. Qualified engineers will welcome your inquiries.

York Corporation

Booth N-23

From its 1955 line of room air-conditioners, York Corporation has chosen two models that both heat and cool for your examination in booth N-23. They also call your attention to their latest development in residential air-conditioning—a two-part, hermetically sealed system which permits the installation of the condensing unit completely apart from the conditioned space.

OPHTHALMIC INSTRUMENTS & SUPPLIES

Alcon Laboratories, Inc.
Booth M-27

Alcon Laboratories, one of this year's new exhibitors, are devoted exclusively to the production of rhinologic and sterile buffered ophthalmic preparations including miotics, mydriatics, anesthetics, Fluorescein and many others. Among their ophthalmic preparations supplied in methyl cellulose, which are identified by the prefix "Isopto," Alcon is featuring Isopto Cortisone and Isopto Hydrocortisone. A convenience to remember is their new plastic Drop-Tainer from which medication is applied directly to the eye.

American Optical Company
Booths B-28, B-30

Many new developments in ophthalmic instruments and equipment are presented by the American Optical Company. These include the new, improved Hardy-Rand-Ritler Color Vision Test and the new motorized ophthalmic chair. AO Tillyer Lenses (single vision, bifocals, trifocals, absorptive and safety) also make an interesting part of the display based on the Vision Around the Clock theme. In addition innovations in their scientific instrument line are demonstrated.

Bausch & Lomb Optical Co.
Booth I-26

The Bausch & Lomb exhibit offers items of interest to both general practitioners and eye specialists. Featured are the new B&L medical sets; their complete diagnostic line; a new motorized ophthalmic chair; and a newly perfected slit lamp being shown for the first time at an A. M. A. meeting.

Anton Heilman
Booth N-25

Highlights of the Anton Heilman exhibit are the Visuscope, a new measuring ophthalmoscope; Rodenstock Refractometer for objective total refraction; Vertex Refractionometer; Etienne Perimeter; Klein's Phoorometer; Hamblin's Lister-Morton and Lister-Loring Ophthalmoscopes; Purvis Streak Retinoscope; Rodenstock Quality Frames; prism exophthalmometer; test lens sets and trial frames; binocular slit lamps and ophthalmoscopes; ophthalmometers; eye surgical instruments; and a selection of imported microscopes.

Keystone View Company
Booth F-5

The new Keystone Lantern Slide Projector, being shown for the first time, is an important part of the Keystone display. This improved projector was designed for class room use and is presented as being excellent for medical society meetings. Representatives will be glad to demonstrate it as well as orthoptic testing and training equipment which is also featured.

Obrig Laboratories, Inc.
Booth J-2

The Obrig Laboratories, Inc., are exhibiting their latest developments in solutionless contact lenses. In addition the display includes gonioscopic lenses; Plas-Tite, a soft plastic material which can be applied to nose bridges, plastic temples and frames; and a description of the Anxcylo process for eliminating concentric rings in ophthalmic lenses.

PERSONNEL BUREAUS

The Medical Bureau
Booth E-14

In booth E-14, Burneice Larson offers the facilities of The Medical Bureau, an organization serving as counselors in problems of medical and hospital personnel. Recommendations can be made of Diplomates of the American Boards, physicians interested in further training or assistantships, general practitioners and administrators as well as scientists, professional nurses, dietitians, social workers, technologists and physical and occupational therapists.

The New York Medical Exchange
Booth B-5

Patricia Edgerly invites you to stop by and talk with her in booth B-5—to the right as you enter the exhibit area. She and members of her staff will be pleased to discuss the many opportunities in industrial medicine, hospital administration, the pharmaceutical industry, various specialties certified by the American Board and in general practice. You may also review the credentials of some good applicants whose services you may be seeking.

Shay Medical Agency
Booth F-14

Shay Medical Agency—a specialized placement service for professional personnel—will welcome your visit to booth F-14 where you may discuss in strict confidence your employment problems. This individual service embraces the placement of Diplomates of the American Boards; general practitioners; industrial physicians; public health specialists; medical directors of universities, industries and pharmaceutical manufacturers; hospital personnel, etc. Whether you are seeking personnel, a position or a new location, Shay Medical Agency can assist you.

Woodward Medical Personnel Bureau
Booth D-12

"Professional personnel—Professionally selected" is the theme in booth D-12. Here, Ann Woodward offers the international services of the Woodward Medical Personnel Bureau, now in its 59th year. Medical personnel problems of schools; clinics; pharmaceutical and industrial firms; institutions; and public health and welfare organizations are discussed as well as those pertaining to physicians in private practice. The excellent opportunities and recommendations which may be investigated here will make your visit most worthwhile.

PHARMACEUTICALS

Abbott Laboratories
Booths F-16, F-18, F-20; G-17, G-19

A topical anesthetic with a low index of sensitivity, Tronothane (Pramoxine HCl), is featured among the new products exhibited by Abbott Laboratories. Tronothane is unique in that it is unrelated chemically to the "caine"-type anesthetics. Abbott is also exhibiting Erythrocin, an antibiotic which provides action against cocci infections with minimal risk of side effects; their non-caloric sweetener Sucaryl; a complete line of intravenous solutions; and Selsun, for control of dandruff-producing seborrheic dermatitis.

American Cyanamid Company
Fine Chemicals Division
Booth F-22

New data reaffirming the high blood and tissue levels, excellent spinal fluid concentrations and resultant greater effectiveness of the triple sulfas (sulfadiazine, sulfamerazine and sulfamethazine) is offered for your examination in booth F-22. Schematic representations point up the advantages of the highly effective and well tolerated chemotherapy provided. This exhibit is presented on behalf of leading pharmaceutical houses who supply these sulfa mixtures.

American Hospital Supply Corp.
Booth I-23

American Hospital Supply Corporation exhibits the complete line of Baxter Intravenous Solutions. The new Flashball to simplify needle insertion and addition of supplemental medication is introduced. Other new items include Berkeley Radio Isotope Equipment, Lipshaw Tissue Processor and S.P. specialties such as Hemolets and Dade Serums.

Ames Company, Inc.
Booth F-21

New uses for Decholin as adjunctive therapy in treatment of hepatobiliary disorders are described in booth F-21. Ames representatives emphasize the improved liver function and reduced patient recovery time resulting from the hydrocholeretic action of Decholin. They also call your attention to the fact that Clinitest, for urine-sugar analysis, is standardized. This assures uniformly reliable results wherever a test is performed—in office, ward, clinic or patient's home.

The Armour Laboratories
Booth F-7

Booth F-7 features Acthar, Armour Laboratories Brand of Adrenocorticotropic Hormone, and Tryptar, purified crystallin trypsin, as well as many other products of Armour manufacture. Representatives will be happy to discuss their products with visitors to the Armour booth.

Astra Pharmaceutical Products, Inc.
Booth E-7

Descriptive literature including current investigative reports citing Xylocaine Hydrochloride is available at the Astra Pharmaceutical Products booth. Among the advantages of this new local anesthetic are its unusually short induction time, its long duration, extended diffusibility and the wide margins of safety within which it may be employed clinically.

Aveeno Corporation
Booth G-11

Prompt relief for "summer dermatoses" by the use of mild, soothing Aveeno colloid baths is suggested at booth G-11. These anti-pruritic baths are presented as a soothing and safe approach to such skin problems as poison ivy, prickly heat, sunburn, infant rashes, etc.

Ayerst Laboratories
Booths G-10, G-12

You are cordially invited to visit booths G-10 and G-12 where representatives look forward to discussing any Ayerst specialties which may be of interest to you.

The Bayer Company
Booth A-25

The Bayer Company Division of Sterling Drug Inc. is featuring Flavored Children's Size Bayer Aspirin. Representatives will welcome the opportunity to present you with samples and explain the flavor stability and ease of administration obtained with Bayer.

Bilhuber-Knoll Corp.
Booth G-14

For the latest information concerning Metrazol, Bilhuber-Knoll asks you to visit their exhibit in booth G-14. Metrazol has been the subject of much investigation in recent years. Your discussion of this effective analeptic and other Bilhuber-Knoll medicinals—Bromural, Dilaudid and Theocalcin—will be welcomed.

Bio Ramo Drug Company, Inc.
Booth N-29

George A. Breon & Company
Booth B-4

Brewer & Company Inc.
Booth N-14

Among the many Brewer specialties being exhibited are: Thesodate, the original enteric-coated tablet of theobromine sodium acetate; Sus-Phrine, subcutaneous long-acting epinephrine preparation; Amchlor, a 1 gm. enteric-coated tablet of ammonium chloride; Asteric, enteric-coated aspirin for use when large dosages are required; Enkide, an enteric-coated tablet of potassium iodide; Vicin and Thibex, Brewer brands of Vitamin C and Vitamin B-1; and a special dosage form designated Gel-Ets, including Estrogenic Substance, Triasyn-B, and Phobs (Phenobarbital).

Bristol Laboratories Inc.
Booth C-7

A replica of an old-time apothecary shop provides an attractive setting for the Bristol Laboratories display. Antibiotic products, including Polycycline, Bristol's brand of tetracycline, and other pharmaceutical specialties are featured. You are cordially invited to visit the booth, and representatives will be glad to supply you with any information you may request.

Burroughs Wellcome & Co. (U. S. A.) Inc.
Booth L-16

Burroughs Wellcome are featuring these new products: Neosporin brand of Polymyxin B-Bacitracin-Neomycin Antibiotic Ointment; Tricoloid brand of tricyclamol; and Aerosporin Sulfate Polymyxin B Sulfate with Propylene Glycol Otic Solution Sterile. Also on display are their well-known Hexameton Chloride autonomic ganglion blocking agent; intermediate-acting Globin Insulin; Anectine Chloride skeletal muscle relaxant; Antepar Citrate; and new I.M. or I.V. forms of Digoxin crystalline glycoside.

The Central Pharmacal Company
Booth H-5

Interest at the Central Pharmacal exhibit centers on their original triple-sulfa specialties, the Trisulfazine products. Three dosage forms, Palatabs, Syrup and Tablets, are presented for your consideration. Your inquiries will be cordially received.

Chicago Pharmacal Company
Booth H-15

Displayed in booth H-15 is the Chimedic pharmaceutical line including the well-established mephenesin anti-spasmodic Tolyspaz; Alpha Estradiol and Diethylstilbestrol, U.S.P., for estrogenic therapy; Calcium Levulinate for high calcium potency; and Digitoxin, U.S.P. for dependable cardiac therapy. Ask about the entire Chimedic injectable line with unique Color-break ampuls.

Chilean Iodine Educational Bureau, Inc.
Booth J-11

The Chilean Iodine Educational Bureau exhibit emphasizes the value of iodine and its compounds and preparations in numerous fields, including medicine, surgery, nutrition and sanitation. The many uses of iodine are described in reprints of papers that are offered here.

Church & Dwight Co., Inc.
Booth I-16

Church & Dwight Co., Inc., display its famous Arm & Hammer and Cow Brands Baking Soda (Pure Sodium Bicarbonate U.S.P.) in booth I-16. Colorful booklets suggesting its application as a dentifrice and handy-size samples suitable for traveling may be obtained at their booth.

Ciba Pharmaceutical Products, Inc.
Booths A-11, A-13; B-4

Serpasil, a pure crystalline alkaloid of Rauwolfia for a tranquilizing effect and a sense of well-being in anxiety, tension and stress states is being featured by Ciba. Serpasil provides accuracy in dosage, unvarying potency and uniform therapeutic results.

Continental Pharmacal Company
Booth H-30

A variety of items are arranged for your viewing in the East half of H-30: hospital solutions and blood bottles; new plastic administration sets; electrolyte solutions in hospital size bottles; and concentrated electrolytes in vials. The hospital catalogues available have many more new products of interest.

Cutter Laboratories
Booth C-5

In booth C-5 Cutter Laboratories' line of human blood products, including Polio Immune Globulin, Normal Serum Albumin and Hypertussis plus a complete line of pediatric products are emphasized. Also on display are Cutter Saftiflask Solutions and blood bottles; and the Saftiline expendable, all-plastic sets with the built-in "Bend-the-Blue" Safticlamp.

Davies, Rose & Company, Ltd.
Booth F-33

Davies, Rose & Company, Ltd., cordially invites members and guests of the A.M.A. to visit booth F-33. Although most physicians need no introduction to their outstanding cardiac therapies, Pil. Digitalis and Tablets Quinidine Sulfate, Natural, representatives will be glad to give further details on the dependability of their laboratory products.

Denver Chemical Mfg. Co., Inc.
Booth H-14

Doak Pharmacal Company
Booth D-2

Two distinctive products of the Doak dermatological line are presented here. Tersus, a soapless detergent for skin and scalp is especially effective in such conditions as acne and seborrhea. Salinidol, a greaseless-ointment containing Salicylanilide 5%, frequently eliminates the necessity for x-ray epilation in the treatment of tinea capitis.

Dome Chemicals, Inc.
Booth L-26

Durex Products, Incorporated
Booth H-30

An extensive line of contraceptive devices and preparations is being displayed by Durex Products, Inc. Here you may inspect Bow-Bend, Dumas, Duraflex (Matrinalus type), Mensinga (flat spring) and Durex Coil Spring Diaphragms; also the Gynometer Diaphragm Inserter; Lactikol Jelly; and Lactikol Creme. Combination sets in handsome zipper kits for convenient dispensing are shown.

Eaton Laboratories
Booth A-30

Eaton Laboratories is featuring the new oral suspension form of Furadantin (brand of nitrofurantoin) for pediatric and geriatric use. This palatable liquid form has a novel base which forms a soft gel on standing, preventing settling out of the drug; shaking the bottle breaks this gel, allowing it to pour readily. Well-known Furadantin Tablets are of course included in the exhibit.

Endo Products Inc.
Booth E-24

Visitors to the Endo booth will find their display highlights: Coumadin, a rapid and highly accurate anticoagulant, offering speedy reversibility of action with vitamin K and decreased need for daily prothrombin time determinations; Cumertilin, oral diuretic with a high degree of effectiveness and tolerance; Hycodan, a clinically established antitussive of choice; and Mesopin, smooth muscle relaxant for gastrointestinal hyperactivity.

Fellows Medical Mfg. Co., Inc.
Booth D-17

Chloral Hydrate in three dosage forms is featured for your attention in D-11. Felsules, the original Chloral Hydrate capsules; Rectules, Chloral Hydrate Suppositories, particularly useful in pediatric, geriatric and gastro-intestinal cases; and non-alcoholic Fellows Chloral Hydrate Liquid (10 grains per teaspoonful), for flexible dosage administration share the honors.

C. B. Fleet Co., Inc.
Booth H-26

During the past fifty years Phospho-Soda (Fleet) has been a symbol of elegance in sodium phosphate medication. This year Fleet Enema Disposable Unit, an enema solution of Phospho-Soda (Fleet), is presented as a worthy companion product. The single use unit simplifies satisfactory preparation for proctoscopy and is being recommended as a boon to the hospitalized patient requiring routine enemas.

E. Fougera and Company Inc.
Booth G-13

E. Fougera and Company, Inc. and its Division, Varick Pharmacal Company, cordially invite physicians to discuss with professional service representatives at booth G-13 new preparations of importance to every day practice. Descriptive literature and samples are available.

E. Fougera and Company Inc.
Booth I-28

Booth I-28 is devoted exclusively to Pronac (brand of white lotion, modified) for individualized polysulfide therapy. Representatives will tell you that in a series of 90 patients, most of them with moderate or severe acne, Pronac produced good to excellent remission of lesions in 82 percent.

Geigy Pharmaceuticals
Booth E-22

A new barbiturate, Medomin (brand of heptabarbital), is being introduced by Geigy Pharmaceuticals. Indicated for well tolerated, gentle hypnosis and reliable, sustained sedation, Medomin is chemically unique in that a 7-member ring is attached to the barbiturate structure. Also exhibited are Butaroltdin, well-known nonhormonal antiarthritic, and Tromexan, oral anticoagulant for prophylaxis and treatment of thromboembolic disorders.

Hoffmann-LaRoche Inc.
Booths I-18, I-20

Roche suggests you stop by their booths where members of the field staff will welcome your inquiries on well tolerated Gantrisin. A highly soluble sulfonamide with a wide antibacterial spectrum, Gantrisin is highly effective in the treatment of systemic and urinary tract infections.

(Continued on advertising page 121)

MEDICAL NEWS

CALIFORNIA

Symposium on Sanitation.—The fourth annual state-wide Symposium on Environmental Sanitation on the Berkeley campus, University of California, April 28-29, will deal with sanitation in relation to city planning, flood control, air pollution, water supply, housing, and refuse disposal. The symposium is presented by the School of Public Health and University Extension, Northern area, in cooperation with the Northern California Section of the National Association of Sanitarians. Enrollment in the program is open to city planners, members of realty boards, public health officials, and others interested in the various aspects of sanitation. Information may be had from the Department of Conferences and Special Activities, University Extension, University of California, Berkeley 4.

CONNECTICUT

Lecture on Hypertension.—The Yale Medical Society and Woodward Lecture Fund will present "The Concept of Essential Hypertension," by Dr. George W. Pickering of the University of London and St. Mary's Hospital, London, England, at 8:15 p. m., April 25, in Fitkin Amphitheatre, Yale-New Haven Medical Center.

State Medical Meeting in Stratford.—The 163rd annual meeting of the Connecticut State Medical Society will be held at the Stratford High School, April 26-28 under the presidency of Dr. Harold M. Marvin, New Haven. The scientific sessions will open Wednesday, 9:15 a. m., with a motion picture film, "Congenital Malformations of the Heart." The afternoon program, arranged by the Connecticut chapter, American Academy of General Practice, will include "Brachial Neuralgia—What Is It or Is It?" by Dr. Darrell C. Crain, Washington, D. C., and "Present Day Management of Hyperthyroidism," by Dr. Solomon Silver, New York. The Thursday afternoon session, arranged by the Connecticut Society of American Board of Surgeons, will include "Abuses of Antibiotics," by Dr. Chester W. Howe, Boston, and "Problems Posed in the Control of Metastatic Cancer by Radioactive Isotopes," by Dr. Lee E. Farr, Upton, N. Y. The annual dinner will be held at the Stratfield Hotel, Bridgeport, Wednesday, 7 p. m. Fifty-year membership awards will be made to Drs. Harry Coltman Clifton, West Hartford; Irwin Granniss, Northford; and David Russell Lyman, Wallingford. Countess Maria Pulaski will deliver an address, "My Life as a Spy." Wednesday, 11:30 a. m., John W. Hedback, associate executive secretary, American Medical Education Foundation, Chicago, will present "Woman's World and Medical Education" at the meeting of the Woman's Auxiliary to the Connecticut State Medical Society. The Connecticut Branch of the American Association of Medical Social Workers has scheduled a panel discussion, "Rehabilitation of the Hemiplegic—Is It Worth the Effort?" for Wednesday, 3:30 p. m. On Thursday at the same time the Connecticut Society of American Board Obstetricians and Gynecologists will have a panel discussion on the treatment of ovarian tumors. Concurrently, at a meeting of the Connecticut Society of Pathologists and the Connecticut Association of Medical Examiners, Dr. LeMoyne Snyder, Lansing, Mich., will present "Medicolegal Investigation of Suspected Crimes." A panel discussion on health services in civil defense will be presented Thursday afternoon. The art exhibit of the Connecticut Physicians' Art Association will be held in rooms 219 and 220 of the high school.

ILLINOIS

Postgraduate Conference.—The Central Illinois Postgraduate Conference will convene at the Hotel Leland, Springfield, April 28, for a program arranged by the postgraduate educational committee, Illinois State Medical Society. Complimentary luncheon by the Sangamon County Medical Society will precede the following presentations by members of the faculty of the University of Illinois College of Medicine, Chicago:

Viral Diseases of the Upper Respiratory Tract, George G. Jackson, associate professor of medicine and preventive medicine.
Clinical Significance of Abnormal Hemoglobins, William R. Best, assistant professor of medicine.
Treatment of Lymphomas and Leukemia, John Louis, instructor in medicine.
New Methods for Prognosis of Cancer of Gastrointestinal Tract, Mitchell A. Spellberg, clinical associate professor of medicine.
Headache, Eric Oldberg, department head and professor of neurology and neurological surgery.
Evaluation of Contemporary Drug Therapy of Rheumatoid Arthritis, Irving E. Steck, clinical assistant professor of medicine.

Ladies are invited to the fellowship hour and the dinner, 6:30 p. m., which will follow. The evening speaker is Edwin J. Holman, LL.B., Executive Secretary of the Judicial Council, Law Department of the American Medical Association, who will discuss "The Legal Aspects of Artificial Insemination."

Chicago

Society News.—At the meeting of the Chicago Society of Physical Medicine and Rehabilitation, in room A-302, Veterans Administration Research Hospital, 333 E. Huron St., at 8 p. m., April 27, Dr. Ralph E. DeForest, Secretary of the American Medical Association Council on Physical Medicine and Rehabilitation, will discuss the program of the Council, and Dr. Ben L. Boynton, medical director, Rehabilitation Institute of Chicago, and professor of physical medicine, Northwestern University Medical School, will present "Preliminary Report on Ultrasonic Therapy in Osteoarthritis."

Lectures on Infantile Paralysis.—The following presentations on poliomyelitis will be made by members of the staff of Albert Merritt Billings Hospital and the medical research laboratories of the University of Chicago on Wednesdays (8-9:30 p. m.) at University College, 19 S. LaSalle St.

April 27, Epidemiology, T. William Lester Jr., director, Student Health Service, associate professor of medicine.
May 4, The Virus: Basic Concepts, Earl A. Evans Jr., Ph.D., professor and chairman, department of biochemistry.
May 11, Treatment of the Early Phases of Polio, Henrietta M. Herbolsheimer, assistant professor of medicine.
May 18, Treatment of Late Paralysis, Thomas D. Brower, instructor, department of surgery (orthopedics).
May 25, The Prevention: Vaccines, J. Thomas Grayston, instructor and fellow, department of medicine.

Fee for the series is $5; single admission, $1.50.

MASSACHUSETTS

Society News.—The Alpha Omicron chapter of Phi Delta Epsilon fraternity at the Boston University School of Medicine will present its annual lectureship April 25. Dr. James Howard Means, acting director of the medical department, Massachusetts Institute of Technology, Cambridge, will discuss "The Need for Experiment in the Social as Well as the Biologic Area of Medicine."

MISSOURI

Society News.—The St. Louis Medical Society and members of the St. Louis County Medical Society are invited to a dinner-lecture at the Sheraton Hotel, Spring and Lindell boulevards, 7:30 p. m., April 28. Mr. Robert A. Vogeler will discuss his experiences while he was imprisoned by the communists in Hungary.

NEW JERSEY

Meeting of Orthopaedic Society.—The New Jersey Orthopaedic Society will hold its semiannual meeting April 30 in Murdoch Hall at the Jersey City Medical Center in Jersey City. The scientific program, from 10 a. m. to 12 noon and 2 to 4 p. m., is open to the profession. The afternoon session will include a presentation by invitation on the present status of the Kenny

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education, and public health. Programs should be received at least three weeks before the date of meeting.

therapy by Dr. Marvin A. Stevens, New York. Other discussors of this subject will be Dr. Claus W. Jungeblut, professor of biochemistry, Columbia University College of Physicians and Surgeons, New York, and Drs. Robert Ward and Walter A. Thompson, professors of pediatrics and of orthopedic surgery, respectively, at New York University College of Medicine.

Symposium on Corticotropin Therapy.—Dr. Philip S. Hench, Rochester, Minn., will serve as moderator for the following symposium at the Academy of Medicine of New Jersey, Newark, April 28, 8:45 p. m.:

Physiological and Clinical Effects of Various Corticotropins, Peter H. Forsham, University of California Medical School, San Francisco.
Special Uses of Corticotropin in Diagnosis and Stress, John C. Laidlaw, University of Toronto (Canada) Faculty of Medicine.
Present Status of Corticotropin Therapy in Management of Rheumatic Diseases, Heinrich G. Brupsch, New England Medical Center, Boston.
Corticotropin Therapy in Other Collagen Diseases, Harry E. Banghart, Hahnemann Medical College and Hospital of Philadelphia.
Therapy with Corticotropin in Allergic and Hypersensitive States, Bram Rose, McGill University Faculty of Medicine, Montreal, Canada.

NEW YORK

Medical-Dental Meeting.—At the medical-dental meeting at the Unity Hospital Auditorium (1545 St. Johns Place, Brooklyn) April 26, 9 p. m., Dr. Joseph J. Eller, New York City, will present "Removal of Acne Scars, Tattoo Marks, Pigmentations, and Other Skin Defects by the New High Speed Rotary Abrasive Stone Wheels" and will report on a new noncombustible refrigeration anesthetic for dermabrasion.

Alpha Omega Alpha Lecture.—The annual Alpha Omega Alpha Lecture of the State University of New York College of Medicine at New York City, Brooklyn, will be delivered by Dr. Arthur J. Patek Jr., associate clinical professor of medicine, Columbia University College of Physicians and Surgeons, New York, whose topic will be "Laennec's Cirrhosis; Present Day Concepts in Treatment." The lecture will take place in Hoagland Hall, 335 Henry St., Brooklyn, April 26, 5:15 p. m. All interested persons are invited.

Society News.—Dr. Herman E. Hilleboe, commissioner of health, state of New York, will be the guest of honor at the regular meeting of the Medical Society of the County of Erie at the Hotel Statler, Buffalo, April 26. His subject will be "Public Health Activities of Special Interest to the Private Practitioner."——The 25th annual convention of the New York State Dietetics Association will be held April 27-29 at the Hotel Roosevelt in New York City. Lawrence K. Frank, A.B., New York, and Charlotte Young, Ph.D., Ithaca, will participate in a panel discussion, "Interpretation of Attitudes," Thursday morning, which will include discussions on mothers' attitudes in the pediatric clinic and patients' attitudes in the clinic interview. The Friday morning session will open with "Clinical Renal Lithiasis," by Dr. George R. Nagamatsu, after which Miss Hilda Katz will discuss "Diets in Renal Lithiasis." Field trips to two new hospitals are included in the program.

Radiological Meeting.—The Buffalo Radiological Society will be host April 23 for the annual four-city radiological meeting, composed of members of the Central New York Roentgen Ray Society, the Rochester Roentgen Ray Society, the Toronto (Canada) Radiological Society, and the Buffalo society. Physicians in the Buffalo-western New York area who desire to attend may communicate with Dr. Clayton G. Weig, secretary-treasurer of the Buffalo Radiological Society, 135 Linwood Ave., Buffalo. The morning session, from 9 a. m. to 12 noon, will offer (1) a tour of the Bethlehem Steel Plant or (2) a visit to the Roswell Park Memorial Institute, where informal clinics and demonstrations will be presented in the departments of radiotherapy, physics, isotope laboratories, and diagnostic roentgenology. After luncheon at the institute from 12 noon to 1 p. m., a program of scientific papers will be given in the auditorium of the institute, 1-4:30 p. m., ending with a film-reading session, for which the moderator will be Dr. Norman Heilbrun, Buffalo, and the panelists Drs. R. B. Holmes, Toronto, Canada; DeForest E. Hale, Syracuse; Gordon J. Culver, Buffalo; and Theodore B. Steinhausen, Rochester. At the banquet, 7 p. m., Dr. Samuel Sanes, Erie County director of pathology, will discuss "Medical Investigation of Crime."

New York City

Society News.—Dr. Theodor Blum will read a paper entitled "An Additional Report on Traumatic Bone Cysts" at the next monthly conference of the New York Institute of Clinical Oral Pathology, 9 p. m., April 25, at the New York Academy of Medicine, room 440.——The New York Society of Physical Medicine and Rehabilitation will honor Dr. William Bierman, past president, at dinner April 27, 7 p. m., at the New York Academy of Medicine, 2 E. 103rd St. Reservations, $10 per plate, include cocktails and gratuities; dress optional. Mail check for reservations to New York Society of Physical Medicine and Rehabilitation, Dr. Madge C. L. McGuinness, Secretary, 48 E. 62nd St., New York 21.

Symposium on Trauma.—The Bronx chapter of the American College of Surgeons will hold a symposium on trauma at the Concourse Plaza Hotel, Bronx, April 28. Dr. Samuel Leo, president, will serve as moderator for the morning presentations and Dr. Thomas J. O'Kane for the afternoon session, both of which will be followed by questions and panel discussion. The program includes the following presentations:

Fundamental Physiology and Pathology of Shock, Magnus I. Gregersen, Ph.D., New York.
Early Recognition and Management of Shock, Howard E. Snyder, Lawrence, Kans.
Management of Acute Head and Spine Injuries, speaker to be announced.
Initial Treatment of Bone and Joint Injuries, speaker to be announced.
Management of Acute Burns, Robert H. Clifford, Detroit.
Anesthesia in Care of the Injured, Henry K. Beecher, Boston.

OKLAHOMA

Society News.—Dr. A. Bernice Clark, chief, outpatient department, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, New York, will be guest speaker for the Tulsa Academy of General Practice, April 25, at Hotel Tulsa. The meeting (8 p. m.) will be preceded by a social hour and dinner ($4 per person) at 6:30 p. m. For reservations call 2-5904. In addition to her present duties at the Bellevue hospital, Dr. Clark is consultant in rehabilitation to the Clinical Center, National Institutes of Health, Bethesda, Md. For many years she was associated with Dr. Howard A. Rusk and has also served as a member of the staff at the Georgia Warm Springs Foundation, doing rehabilitation work in poliomyelitis.

WISCONSIN

Course in Pediatrics.—The University of Wisconsin Medical School, Madison, offers a postgraduate course in pediatrics, April 26-28, conducted by Dr. John E. Gonce Jr., assisted by 22 other faculty members. Application for registration should be sent to Dr. Robert C. Parkin, University of Wisconsin Medical School, 418 N. Randall Ave., Madison 6.

GENERAL

Meeting on Thoracic Surgery.—The 35th annual meeting of the American Association for Thoracic Surgery will be held at the Chalfonte-Haddon Hall, Atlantic City, N. J., April 24-26 under the presidency of Dr. Edward S. Welles, Saranac Lake, N. Y. Single author presentations by invitation include:

Spontaneous Rupture of the Esophagus, George W. B. Starkey, Boston.
Diagnosis of Acquired Valvular Disease by Left Heart Pressure Recordings, Don L. Fisher, Pittsburgh.
A Laboratory and Clinical Evaluation of Operations for Coronary Artery Disease, David S. Leighninger, Cleveland.
Autogenous Thoracic Aorta Grafts of Pericardium and Nylon Net Using a Thrombin-Fibrinogen Coagulum, Richard H. Adler, Denver.

In all, 43 presentations will be made.

Surgeons Meet in Philadelphia.—The American Surgical Association will meet at the Hotel Warwick, Philadelphia, April 27-29, under the presidency of Dr. John H. Gibbon Jr., Philadelphia. The sessions, during which 36 papers will be presented and 6 read by title, will open with the presentation of "Attempts to

Induce Resistance to Cancer" by Dr. Harvey B. Stone and, by invitation, Dr. Louise Schnaufer, Baltimore. The closing presentation, Friday afternoon, will be "Cancer of the Colon," by Dr. Calvin M. Smyth, Abington, Pa. More than 30 persons will participate by invitation.

American Physicians Art Association.—The American Physicians Art Association is holding an art show during the American Medical Association's meeting in Atlantic City, June 6-10. Doctors who are interested in becoming members of this association should do so now. All categories of art are included —oil painting, water color, crayon, pencil drawings, pastels, etchings, wood carving, metal work, sculpture, and photography. Prizes are to be given in each category, and there is to be both an advanced and a beginners' class. Beginners are those who have been doing art work less than three years. The show is to be held on the mezzanine floor of the auditorium. There is a limit of two pieces for each exhibitor, due to restricted space. Membership dues are $5, with a charge of $5 for each piece submitted to the art show. Direct inquiries to Dr. F. H. Redewill Jr., Secretary-Treasurer, 124 E. Hadley St., Whittier, Calif.

Meeting of American Goiter Association.—The American Goiter Association will meet at the Skirvin Hotel, Oklahoma City, April 28-30. The presidential address is scheduled to be delivered Friday at 8:30 a. m. by Dr. Richard B. Cattell, Boston. The 39 presentations will open with "Effect of Thyroid Activity on Brain Function and Brain Electrolyte Distribution in Rats," by Dr. Paola S. Timiras and Dixon M. Woodbury, Ph.D., Salt Lake City, and will close with the presentation of "Goiter and Hypothyroidism Following Prolonged Administration of Iodide," by Drs. Henry H. Turner and Robert B. Howard, Oklahoma City. Friday afternoon "A Critical Evaluation of Surgical Treatment of Papillary Adenocarcinoma of the Thyroid: A Review of 200 Cases Followed from Five to Twenty-Five Years" will be presented by Drs. B. Marden Black and Mark L. Lemmon, Rochester, Minn.

Industrial Medical Meeting in San Francisco.—The Western Industrial Medical Association will hold its 14th annual meeting at the Sir Francis Drake Hotel in San Francisco, April 30. Physicians, nurses, management, employment personnel, safety personnel, members of the legal profession, and others interested in the management, treatment, and consideration of industrial medical and traumatic conditions or industrial compensation work are invited to attend and participate. Subjects for the morning discussion include "The Back Problem" and "Psychological and Somatic Aspects of Allergy." The afternoon will be devoted to a panel discussion on medical reports and medical testimony as seen by the California Industrial Accident Commission, applicant's attorney, and insurance company attorney. Information may be obtained from the Program Chairman, Dr. Loris E. Curtis, 225 Bush St., San Francisco, or the Secretary, Dr. Edward J. Zaik, Room 220, 740 S. Olive St., Los Angeles.

Congress of Radiology.—The fifth Inter-American Congress of Radiology will meet at the Shoreham Hotel, Washington, D. C., April 24-29 under the presidency of Dr. James T. Case, Santa Barbara, Calif. The meeting, following that of the American Radium Society, April 21-23 (THE JOURNAL, April 16, p. 1419), will offer refresher courses both in English and in Spanish. Dr. Leo G. Rigler, Minneapolis, will moderate a symposium dealing with "Cancer of the Lung" and will deliver a paper, "The Natural History of Lung Carcinoma." Participating in the symposium will be Dr. Alexander G. Gilliam, U. S. Public Health Service; Dr. S. Di Rienzo, Cordoba, Argentina; and Dr. Laura Farinas, Havana, Cuba. "New Trends in Cancer" and "Radioactive Isotopes" are the subjects for other symposiums that will be presented. On Saturday the session of the congress will be held at the National Cancer Institute of the National Institutes of Health in Bethesda, Md., where a refresher course in the radioisotopes will be followed by a guided tour of the institute and the National Cancer Hospital. The social program includes visits to points of interest in Washington and a private concert in Constitution Hall, Wednesday evening, given by the Philadelphia Symphony Orchestra directed by Eugene Ormandy.

Refresher Program in Blood Banking.—The Catholic Hospital Association of the United States and Canada will sponsor a refresher program in blood banking April 25-29 at the Wohl Health Center, 1528 N. Kingshighway Blvd., St. Louis, to assist technologists to prepare for examinations for certification as Blood Bank Technologists, given by the American Association of Blood Banks and the Board of Registry, Medical Technologists, May 13. Dr. Virgil Loeb Jr., Washington University School of Medicine, St. Louis, will present "A Brief History of Blood Banking" and "Blood Donor Hazards"; Monday afternoon Sister Mary Emerita, O.S.F., will discuss "Blood Bank Records"; and Charles E. Berry, secretary of the council on hospital administration, will speak on "Legal Aspects of Blood Banking." Tuesday morning Dr. William Harrington, Washington University School of Medicine, St. Louis, will consider "Antigens and Antibiotics of Human Blood Groups," and the "Rh System," after which an explanation of "Blood Grouping Techniques" will be made by Sister Ann Marie, R.S.M., St. John's Hospital, St. Louis; and a laboratory period will be offered on blood grouping. On Wednesday morning, Dr. Loeb will explain other blood group systems and will discuss antiglobulin tests. A laboratory period on cross matching will follow the presentation by Sister Martin Mary, S.S.M., St. Mary's Hospital, St. Louis, of "Cross-Matching Techniques." Thursday morning's session will be devoted to discussions on blood groups and disease and blood and plasma transfusion hazards by Dr. Harrington. Miss Helen Madden, Blood Grouping Laboratories, Boston, will explain the "Coombs Test Techniques" before the afternoon session laboratory period and on Friday morning will discuss "Indication for and Technique of Antibody Titrations." Laboratory periods, which will be held on Friday, will be devoted to antibody titrations.

Allergists Meet in Chicago.—The 11th annual congress of the American College of Allergists will convene at the Morrison Hotel, Chicago, April 28-30, opening Thursday at 9 a. m. with an address of welcome by Dr. Max Samter, president, Chicago Allergy Society, to which Dr. Homer E. Prince, Houston, Texas, president, American College of Allergists, will respond. An invitational address, "Educational Opportunities in Allergy" will be delivered by Dr. John M. Sheldon, Ann Arbor, Mich., president, American Academy of Allergy, at 11:30 a. m. The luncheon guest speaker, Dr. Harry L. Alexander, St. Louis, former editor of the *Journal of Allergy*, will have as his subject "Death from Asthma." The afternoon session will close with a presentation of "Radioactive Iodine in the Treatment of Severe Chronic Pulmonary Emphysema" by Dr. Allan Hurst, and (by invitation) Drs. Morris H. Levine and D. Russell Rich, Denver. Dr. French K. Hansel, St. Louis, will serve as chairman and moderator for an ophtho-otolaryngological allergy panel that will be presented at the luncheon meeting Friday, 12:30 p. m. Friday at 2 p. m. Dr. Prince will deliver the presidential address preceding introduction of the president-elect, Dr. Lawrence J. Halpin, Cedar Rapids, Iowa. At 2:30 p. m. the guest speaker, Dr. Robert A. Cooke, director, Institute of Allergy, Roosevelt Hospital, New York, will discuss "Medical Research in the Field of Allergy." On Friday evening there will be a dermatology session that will open with "Overtreatment Dermatitis" by Dr. L. Edward Gaul, Evansville, Ind., after which the following invited addresses will be made:

Hand Eczemas: Classification, Pathogenesis and Therapy, Samuel M. Bluefarb, Chicago.
Allergic Vasculitis, Frederick J. Szymanski, Chicago.
Recent Studies in the Relationship Between Emotions and Atopic Dermatitis, Milton Robin and Joseph G. Kepecs, Chicago.
Therapy of Allergic Dermatoses, John B. Haeberlin Jr., Chicago.

A psychosomatic session will also be held Friday evening, and ophtho-otolaryngologic and pediatric sessions are scheduled for Saturday morning.

American College of Physicians.—The 36th annual session of the American College of Physicians at Convention Hall, Philadelphia, April 25-29, will be opened Monday afternoon, when the Hon. Joseph S. Clark Jr., mayor of Philadelphia, will deliver an address of welcome, to which the response will be made by Dr. Cyrus C. Sturgis, Ann Arbor, Mich., president. At 2:20 p. m. the James D. Bruce Memorial Lecture on Preventive

Medicine, "Antibiotic Products of a Versatile Fungus," will be delivered by Sir Howard Walter Florey, professor of pathology, Sir William Dunn School of Pathology, University of Oxford, Oxford, England. Dr. George W. Pickering, University of London, England, who has been invited to open the Tuesday afternoon session with "The Genetic Factor in Essential Hypertension," will also deliver the convocation oration, "Disorders of Contemporary Society and Their Impact on Medicine," at the annual convocation Wednesday evening, to which all members of the profession and the public are invited. Other presentations by invitation include:

Aldosterone: Observations on the Regulation of Sodium Balance, John A. Luetscher Jr., San Francisco.
The Practical Etiology of Atherosclerosis, Ancel B. Keys, Ph.D., Minneapolis.
Nodular Goiter: The Indications for Medical and Surgical Therapies, Oliver Cope, Boston.
Clinical Aspects of Plasma Volume Expansion, Walter Lyon Bloom, Atlanta, Ga.
Preservation of Blood for Transfusion Purposes, Clement A. Finch, Seattle.
New Developments in Diagnosis and Treatment of Pernicious Anemia, C. Lockard Conley, Baltimore.
Epidemiologic Considerations of Sarcoidosis, Max Michael Jr., New York, John T. Gentry, Syracuse, N. Y., and Harold M. Nitowsky, Baltimore.
Can the Practice of Internal Medicine Be Evaluated? C. Wesley Eisele, Denver, Vergil N. Slee, Hastings, Mich., and Robert G. Hoffmann, Ph.D., Ann Arbor, Mich.
Defective Serum Gamma Globulin Formation, Thomas H. Brem, Los Angeles, and M. E. Morton, Los Angeles.
The Problem of Peptic Ulcer, F. Avery Jones, London, England.

The John Phillips Memorial Lecture, "Studies on Fluorohydrocortisone and Aldosterone," will be delivered by Dr. George W. Thorn, Hersey Professor of the Theory and Practice of Physic, Harvard Medical School, Boston, Wednesday at 2 p. m. Friday at 2:40 p. m. Dr. Robert D. Lawrence, London, England, will present the Lilly Lecture, "Three Types of Human Diabetes." Symposiums have been scheduled on acute myocardial infarction, hypertension, corticotropin (ACTH) and cortisone, preventive medicine, and infection. The scientific sessions will end Friday with two clinical pathological conferences. The annual banquet at the Benjamin Franklin Hotel, Thursday, 8 p. m., will be preceded by a "Dutch treat" cocktail party. Dr. Thomas M. Durant, Philadelphia, will serve as toastmaster at the banquet, and Mr. Ogden Nash will deliver the address of the day, "Midway Thru Nash."

LATIN AMERICA

Pilot Study of Poliomyelitis Vaccine.—Dr. Humberto Fernandez-Moran V, director of the Venezuelan Institute for Neurology and Brain Research, Caracas, has announced that Venezuela plans to be the first nation outside the United States to undertake mass immunization of its citizens with the Salk polio vaccine. Dr. Fernandez-Moran is participating in conferences on poliomyelitis with government officials and United States medical authorities. The poliomyelitis program will be the first project undertaken in the new 3 million dollar institute which Dr. Fernandez-Moran directs. Under the auspices of the ministry of health, he will institute a pilot study of the vaccine among 2,000 infants in Venezuela. According to Dr. Fernandez-Moran, the poliomyelitis problem is not so serious as in the United States. In 1947 only 13 cases were reported; in 1953, however, Venezuela had 190 reported cases with a population of 5.4 million, an incidence rate of 4 cases per 100,000 persons, 85% of the cases being among children below 5 years of age.

FOREIGN

Seminars on Orthopedic and Traumatic Surgery.—In its seminar congresses in orthopedic and traumatic surgery, the American Medical Society of Vienna will present the following programs by the medical faculty of the University of Vienna:

May 17-18, Treatment of Congenital Orthopedic Deformation.
June 21-22, Fractures of the Extremities.
July 19-20, Rehabilitation.
Aug. 23-24, Surgical Treatment of Joints.
Sept. 20-21, Intramedullary Nailing.
Oct. 18-19, Cranial and Spinal Injuries.
Nov. 22-23, Surgical Treatment of the Hand.

Details may be obtained from the American Medical Society of Vienna, I. Vienna, Universitaetsstrasse II. Cable: "Ammedic" Vienna.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.
1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

1956 Annual Meeting, Chicago, June 11-15.
1956 Clinical Meeting, Seattle, Nov. 27-30.

1957 Annual Meeting, New York, June 3-7.

AMERICAN ACADEMY OF NEUROLOGY, Shamrock Hotel, Houston, Tex., April 28-30. Dr. Alexander T. Ross, Indiana University Medical Center, Indianapolis 7, Secretary.

AMERICAN ACADEMY OF TUBERCULOSIS PHYSICIANS, Ritz-Carlton Hotel, Atlantic City, N. J., June 4. Dr. Oscar S. Levin, P. O. Box 7011, Denver, Secretary.

AMERICAN ASSOCIATION FOR CLEFT PALATE REHABILITATION, Statler Hotel, Boston, May 13-14. Dr. Jack Matthews, 1617 Cathedral of Learning, University of Pittsburgh, Pittsburgh 13, Secretary.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS, Monterey Lodge, Monterey, Calif., May 22-25. Dr. John A. Taylor, 2 East 54th St., New York 22, Secretary.

AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE, Hotel Park Shelton, Detroit, May 12-14. Dr. Samuel X. Radbill, 7043 Elmwood Ave., Philadelphia 42, Secretary.

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY, Statler Hotel, Detroit, May 24-28. Dr. Lloyd N. Yepsen, New Lisbon, N. J., Secretary.

AMERICAN ASSOCIATION FOR THE STUDY OF NEOPLASTIC DISEASES, Lord Baltimore Hotel, Baltimore, May 5-7. Dr. Bruce H. Sisler, P. O. Box 268, Gatlinburg, Tenn., Secretary.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Chalfonte-Haddon Hall, Atlantic City, N. J., April 24-26. Dr. Paul C. Samson, 3959 Happy Valley Rd., Lafayette, Calif., Secretary.

AMERICAN COLLEGE OF ALLERGISTS, Morrison Hotel, Chicago, April 25-30. Dr. Fred W. Wittich, 401 LaSalle Med. Bldg., Minneapolis 2, Secretary.

AMERICAN COLLEGE OF ANGIOLOGY, Brighton Hotel, Atlantic City, N. J., June 4. Dr. Hugh Murphy, 151 East 83d St., New York, Secretary.

AMERICAN COLLEGE OF CARDIOLOGY, Hotel Biltmore, New York, May 19-21. Dr. Philip Reichert, 140 West 57th St., New York 19, Secretary.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Atlantic City, N. J., June 2-5. Mr. Murray Kornfeld, 112 East Chesnut St., Chicago 11, Executive Director.

AMERICAN COLLEGE OF PHYSICIANS, Benjamin Franklin and Bellevue-Stratford Hotels, Philadelphia, April 25-29. Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Executive Secretary.

AMERICAN DIABETES ASSOCIATION, Chalfonte-Haddon Hall, Atlantic City N. J., June 4-5. Dr. John A. Reed, 1 East 45th St., New York 17, Secretary

AMERICAN ELECTROENCEPHALOGRAPHIC SOCIETY, Palmer House, Chicago, June 10-12. Dr. W. T. Liberson, EEG Research Laboratory, Veterans Administration Hospital, Northampton, Mass., Secretary.

AMERICAN FEDERATION FOR CLINICAL RESEARCH, Haddon Hall, Atlantic City, N. J., May 1. Dr. Lawrence E. Hinkle Jr., 525 East 68th St., New York 21, Secretary.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION, Claridge Hotel, Atlantic City, N. J., June 3-4. Dr. H. Marvin Pollard, University Hospital, Ann Arbor, Mich., Secretary.

AMERICAN GASTROSCOPIC SOCIETY, West Room, Haddon Hall, Atlantic City, N. J., June 2. Dr. John Tilden Howard, 12 East Eager St., Baltimore 2, Secretary.

AMERICAN GOITER ASSOCIATION, Skirvin Hotel, Oklahoma City, April 28-30. Dr. John C. McClintock, 149½ Washington Ave., Albany 10, N. Y., Secretary.

AMERICAN GYNECOLOGICAL SOCIETY, Chateau Frontenac, Quebec, Canada, May 23-25. Dr. John I. Brewer, 104 S. Michigan Blvd., Chicago 3, Secretary.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Hotel Dennis, Atlantic City, N. J., June 2-5. Miss L. T. Majalty, 1790 Broadway, New York 19, Executive Secretary.

AMERICAN NEUROLOGICAL ASSOCIATION, Palmer House, Chicago, June 13-15. Dr. H. Houston Merritt, 710 West 168th St., New York 32, Secretary.

AMERICAN OPHTHALMOLOGICAL SOCIETY, Greenbrier Hotel, White Sulphur Springs, W. Va., June 2-4. Dr. Maynard C. Wheeler, 30 West 59th St., New York 19, Secretary.

AMERICAN PEDIATRIC SOCIETY, Chateau Frontenac, Quebec, Canada, June 13-17. Dr. Alma C. McGuinness, Medical Laboratories, University of Pennsylvania, Philadelphia 4, Secretary.

AMERICAN PROCTOLOGIC SOCIETY, Hotel Statler, New York, June 1-4. Dr. Karl Zimmerman, 3500 Fifth Ave., Pittsburgh 13, Secretary

AMERICAN PSYCHIATRIC ASSOCIATION, Traymore and Claridge Hotels, Atlantic City, N. J., May 9-13. Dr. William Malamud, 80 East Concord St., Boston 18, Secretary.

AMERICAN PSYCHOSOMATIC SOCIETY, Claridge Hotel, Atlantic City, N. J., May 4-5. Dr. Theodore Lidz, 333 Cedar St., New Haven 11, Conn., Secretary.

AMERICAN RHEUMATISM ASSOCIATION, Hotel Dennis, Atlantic City, N. J., June 3-4. Dr. William H. Kammerer, 33 East 61st St., New York 21, Secretary.

AMERICAN SOCIETY FOR ARTIFICIAL INTERNAL ORGANS, Hotel Chelsea, Atlantic City, N. J., June 4-5. Dr. Peter F. Salisbury, Institute for Medical Research, 4751 Fountain Ave., Los Angeles 29, Acting Secretary.

AMERICAN SOCIETY FOR CLINICAL INVESTIGATION, Haddon Hall, Atlantic City, N. J., May 2. Dr. J. D. Meyers, Duke University School of Medicine, Durham, N. C., Secretary.

AMERICAN SOCIETY OF MAXILLOFACIAL SURGEONS, Brown Hotel, Louisville, Ky., May 9-11. Dr. John A. Drummond, 1414 Drummond St., Montreal, Canada, Secretary

AMERICAN SOCIETY FOR THE STUDY OF STERILITY, Ritz-Carlton Hotel, Atlantic City, N. J., June 3-5. Dr. Herbert H. Thomas, 920 South 19th St., Birmingham, Ala., Secretary,

AMERICAN SURGICAL ASSOCIATION, The Warwick, Philadelphia, April 27-29. Dr. R. Kennedy Gilchrist, 59 East Madison St., Chicago 3, Secretary.

AMERICAN THERAPEUTIC SOCIETY, Shelburne Hotel, Atlantic City, N. J., June 2-5. Dr. Oscar B. Hunter Jr., 915 Nineteenth St. N.W., Washington 6, D. C., Secretary.

AMERICAN TRUDEAU SOCIETY, Schroeder Hotel, Milwaukee, May 23-27. Dr. W. G. Childress, 1790 Broadway, New York 19, Secretary.

AMERICAN UROLOGICAL ASSOCIATION, Hotel Biltmore, Los Angeles, May 16-19. Dr. Charles H. deT. Shivers, 121 South Illinois Ave., Atlantic City, N. J., Secretary.

AMERICAN VENEREAL DISEASE ASSOCIATION, Washington, D. C., Apr. 28-29. Dr. John C. Hume, 615 N. Wolfe St., Baltimore 5, Secretary.

ARIZONA MEDICAL ASSOCIATION, El Conquistador, Tucson, May 4-7. Dr. Dermont W. Melick, 401 Security Building, Phoenix, Secretary.

ARKANSAS MEDICAL SOCIETY, Arlington Hotel, Hot Springs, May 29-June 1. Dr. J. J. Monfort, 215 Kelley Bldg., Fort Smith, Secretary.

ASSOCIATION OF AMERICAN PHYSICIANS, Chalfonte-Haddon Hall, Atlantic City, N. J., May 3-4. Dr. W. Barry Wood Jr., 600 S. Kingshighway Blvd., St. Louis 10, Secretary.

ASSOCIATION FOR RESEARCH IN OPHTHALMOLOGY, Dennis Hotel, Atlantic City, N. J., June 7-9. Dr. Lorand V. Johnson, 10515 Carnegie Ave., Cleveland 6, Secretary.

CALIFORNIA MEDICAL ASSOCIATION, Palace Hotel, San Francisco, May 1-4. Mr. John Hunton, 450 Sutter St., San Francisco 8, Executive Secretary.

CATHOLIC HOSPITAL ASSOCIATION OF THE U. S. AND CANADA, Kiel Auditorium, St. Louis, May 16-19. Mr. M. R. Kneifl, 1438 South Grand Blvd., St. Louis 4, Executive Secretary.

CONNECTICUT STATE MEDICAL SOCIETY, Stratford High School, Stratford, April 26-28. Dr. Creighton Barker, 160 St. Roman St., New Haven, Executive Secretary

GEORGIA, MEDICAL ASSOCIATION OF, Bon Air Hotel, Augusta, May 1-4. Mr. Milton D. Kreuger, 875 West Peachtree St., Atlanta, Executive Secretary.

HAWAII MEDICAL ASSOCIATION, Honolulu, May 5-8. Dr. Samuel L. Yee, 510 South Beretania St., Honolulu 13, Secretary.

ILLINOIS STATE MEDICAL SOCIETY, Hotel Sherman, Chicago, May 17-20. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

INDUSTRIAL MEDICAL ASSOCIATION, Buffalo, N. Y., April 23-29. Dr. Glenn Gardiner, Inland Steel Co., East Chicago, Ind., Secretary.

IOWA STATE MEDICAL SOCIETY, Veterans' Memorial Auditorium, Des Moines, April 24-27. Dr. R. F. Birge, 529 36th St., Des Moines 12, Secretary.

KANSAS MEDICAL SOCIETY, Baker Hotel, Hutchinson, May 1-5. Dr. J. A. Butin, 315 West Fourth St., Topeka, Secretary.

LOUISIANA STATE MEDICAL SOCIETY, Roosevelt Hotel, New Orleans, May 2-4. Dr. C. Grenes Cole, 1430 Tulane Ave., New Orleans 12, Secretary.

MASSACHUSETTS MEDICAL SOCIETY, Hotel Statler, Boston, May 17-19. Dr. Robert W. Buck, 22 Fenway, Boston 15, Secretary.

MEDICAL LIBRARY ASSOCIATION, Hotel Schroeder, Milwaukee, May 17-20. Miss Esther Judkins, Rockefeller Institute, 66th St. at York Ave., New York 21, Secretary.

MEDICAL SOCIETY EXECUTIVES CONFERENCE, Ritz-Carlton Hotel, Atlantic City, N. J., June 4. Mr. W. H. Barthelson, 3036 Gillham Road, Kansas City 8, Mo., Secretary.

MINNESOTA STATE MEDICAL ASSOCIATION, Hotel Radisson, Minneapolis, May 23-25. Mr. R. R. Rosell, Lowry Medical Arts Bldg., St. Paul 2, Executive Secretary.

MISSISSIPPI STATE MEDICAL ASSOCIATION, Hotel Buena Vista, Biloxi, May 10-12. Mr. Rowland B. Kennedy, 860 Milner Bldg., Jackson, Executive Secretary.

NATIONAL TUBERCULOSIS ASSOCIATION, Hotel Schroeder, Milwaukee, May 23-27. Dr. James E. Perkins, 1790 Broadway, New York 19, Managing Director.

NEBRASKA STATE MEDICAL ASSOCIATION, Hotel Paxton, Omaha, May 16-19. Dr. R. B. Adams, 1315 Sharp Bldg., Lincoln, Secretary.

NEW MEXICO MEDICAL SOCIETY, Hilton Hotel, Albuquerque, May 4-6. Mr. Ralph R. Marshall, 223 First National Bank Bldg., Albuquerque, Executive Secretary.

NEW YORK, MEDICAL SOCIETY OF THE STATE OF, Hotel Statler, Buffalo, May 9-13. Dr. Walter P. Anderton, 386 Fourth Avenue, New York 16, Secretary.

NORTH AMERICAN CHAPTER, INTERNATIONAL SOCIETY OF ANGIOLOGY, Chalfonte-Haddon Hall, Atlantic City, N. J., June 4. Dr. Henry Halmovici, 105 East 90th St., New York 28, Secretary.

NORTH CAROLINA, MEDICAL SOCIETY OF THE STATE OF, Hotel Carolina, Pinehurst, May 2-4. Mr. James T. Barnes, 203 Capitol Club Building, Raleigh, Executive Secretary.

NORTH DAKOTA STATE MEDICAL ASSOCIATION, Hotel Prince, Bismarck, April 30-May 3. Dr. E. H. Boerth, Box 1198, Bismarck, Secretary.

OKLAHOMA STATE MEDICAL ASSOCIATION, Mayo Hotel, Tulsa, May 8-11. Mr. R. H. Graham, 1227 Classen Drive, Oklahoma City, Executive Secretary.

PACIFIC NORTHWEST SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, Spokane, Wash., May 21. Dr. E. E. Banfield, Medical Arts Bldg., Tacoma 2, Washington, Secretary.

RHODE ISLAND MEDICAL SOCIETY, Rhode Island Medical Society Library, Providence, May 4-5. Dr. Thomas Perry Jr., 106 Francis St., Providence 3, Secretary.

ROCKY MOUNTAIN MEDICAL CONFERENCE, Hilton Hotel, Albuquerque, N. Mex., May 4-6. Mr. Ralph R. Marshall, 223-224 First National Bank, Albuquerque, N. Mex., Secretary.

SECTIONAL MEETINGS, AMERICAN COLLEGE OF SURGEONS:

MANITOBA, Winnipeg, The Fort Garry, April 25-26. Dr. Paul H. T. Thorlakson, Winnipeg Clinic, Winnipeg, Manitoba, Chairman.

SOCIETY OF AMERICAN BACTERIOLOGISTS, Statler Hotel, New York, May 8-13. Dr. John Hays Bailey, Sterling Winthrop Research Institute, Rensselaer, N. Y., Secretary.

SOCIETY OF BIOLOGICAL PSYCHIATRY, Palmer House, Chicago, June 11-12. Dr. George N. Thompson, 2010 Wilshire Blvd., Los Angeles 5, Secretary.

SOCIETY FOR INVESTIGATIVE DERMATOLOGY, Ritz-Carlton Hotel, Atlantic City, N. J., June 4-5. Dr. Herman Beerman, 255 South 17th St., Philadelphia 3, Secretary.

SOCIETY FOR PEDIATRIC RESEARCH, Chateau Frontenac, Quebec, Canada, June 15-18. Dr. Sydney S. Gellis, 330 Brookline Ave., Boston 15, Secretary.

SOCIETY FOR VASCULAR SURGERY, Atlantic City, N. J., June 5. Dr. George D. Lilly, 333 Ingraham Bldg., Miami 32, Fla., Secretary.

SOUTH CAROLINA MEDICAL ASSOCIATION, Francis Marion Hotel, Charleston, May 10-12. Dr. Robert Wilson, 165 Rutledge Ave., Charleston, Secretary.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION, Lawler Hotel, Mitchell, May 21-24. Dr. G. I. W. Cottam, 300 First National Bank Bldg., Sioux Falls, Secretary.

SOUTHERN BRANCH, AMERICAN PUBLIC HEALTH ASSOCIATION, New Orleans, May 11-13. Dr. Frank M. Hall, P. O. Box 491, Gainesville, Fla., Secretary.

STUDENT AMERICAN MEDICAL ASSOCIATION, Sherman Hotel, Chicago, May 6-8. Mr. Russell F. Staudacher, 510 N. Dearborn St., Chicago 10, Executive Secretary.

TEXAS MEDICAL ASSOCIATION, Texas Hotel, Fort Worth, April 24-27. Dr. J. M. Travis Sr., 1801 North Lamar Blvd., Austin, Secretary.

THE ENDOCRINE SOCIETY, Chalfonte-Haddon Hall, Atlantic City, N. J., June 2-4. Dr. Henry H. Turner, 1200 N. Walker St., Oklahoma City 3, Secretary.

UNITED STATES-MEXICO BORDER PUBLIC HEALTH ASSOCIATION, Hotel del Bosque, Mexico, D. F., May 6-9. Dr. Sidney B. Clark, 204 U. S. Court, El Paso, Texas, Secretary.

UPPER PENINSULA MEDICAL SOCIETY, Gateway Hotel, Land O'Lakes, Wis., June 17-18. Dr. William H. Wacek, Box 680, Ironwood, Mich., Secretary.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, Sir Francis Drake Hotel, San Francisco, April 30. Dr. Edward J. Zark, 740 S. Olive St., Room 320, Los Angeles 14, Secretary.

WISCONSIN, STATE MEDICAL SOCIETY OF, Hotel Schroeder, Milwaukee, May 3-5. Mr. Charles H. Crownhart, 704 East Gorham St., Madison 3, Secretary.

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION, Haddon Hall, Atlantic City, N. J., June 6-10. Miss Margaret Wolfe, 535 N. Dearborn St., Chicago 10, Executive Secretary.

WYOMING STATE MEDICAL SOCIETY, Hotel Connor, Laramie, June 5-7. Mr. Arthur R. Abbey, Box 2036, Cheyenne, Executive Secretary.

EXAMINATIONS AND LICENSURE

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I and II in 1955.* June 21-22, Sept. 6-7 (Part 1 only). Candidates may file applications at any time, but the National Board must receive them at least six weeks before the date of the examination. New candidates should apply by formal registration; registered candidates should notify the board by letter and forward their fees. Exec. Sec., Dr. John B. Hubbard, 133 South 36th St., Philadelphia 4.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: *Written.* July 15. Final date for filing applications was Jan. 15. *Oral.* New York City, Oct. 23-27. Sec., Dr. Curtiss B. Hickcox, 80 Seymour St., Hartford 15.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOGY: *Written.* Various centers, June 30. *Oral.* Washington, D. C., Oct. 14-16. Final date for filing application was March 15. Sec., Dr. B. M. Kesten, One Haven Ave., New York 32, N. Y.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral.* Philadelphia, May 4-5; Washington, D. C., May 6-7; Portland, Ore., Sept. 14-16; Chicago, Nov. 30-Dec. 1. *Subspecialties. Cardiovascular Disease.* Chicago, Nov. 30. The closing date for acceptance of applications for gastroenterology was Feb. 1, and for cardiovascular disease the closing date is June 1. Exec. Sec., Dr. William A. Werrell, 1 West Main St., Madison 3, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* St. Louis, April 28-30, New Haven, November. Oral examinations given in Spring and Fall. Final date for filing application for the Spring examination is October 1; for the Fall examination April 1. Sec., Dr. Leonard T. Furlow, Washington University School of Medicine, St. Louis 10.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Part II. Oral and Clinical Examination.* Chicago, May 11-20. Candidates who participated in the Part I examinations will be notified of their eligibility for the Part II examinations as soon as possible. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

AMERICAN BOARD OF OPHTHALMOLOGY: *Practical Examinations.* Philadelphia, May 27-30; Chicago, Oct. 9-14. Final date for filing application for 1955 practical examination was July 1, 1954. *Written.* January, 1956. Final date for filing application is July 1. Sec., Dr. Merrill J. King, 56 Ivie Road, Cape Cottage, Maine.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: *Part I.* Various locations, April. Final date for filing applications was Nov. 30, 1954. Sec., Dr. Harold A. Sofield, 122 South Michigan Ave., Chicago 3.

AMERICAN BOARD OF OTOLARYNGOLOGY: *Oral.* Chicago, Oct. 3-7. Final date for filing application is April. Sec., Dr. Dean M. Lierle, University Hospitals, Iowa City.

AMERICAN BOARD OF PEDIATRICS: *Oral.* New York City, June 10-12; Chicago, Oct. 7-9; and Washington, D. C., Dec. 2-4. Admin. Sec., Mrs. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa.

AMERICAN BOARD OF PHYSICAL MEDICINE AND REHABILITATION: Philadelphia, June 10-12. The final date for filing applications was March 1. Sec., Dr. Earl C. Elkins, 30 N. Michigan Ave., Chicago 2.

AMERICAN BOARD OF PLASTIC SURGERY: *Entire Examination.* Washington, D. C., April 30-May 2. Final date for filing case reports was Jan. 1. Corres. Sec., Miss Estelle E. Hillerich, 4647 Pershing Ave., St. Louis 8.

AMERICAN BOARD OF PREVENTIVE MEDICINE: *Certification in Public Health.* Kansas City, Mo., Nov. 10-12. Sec.-Treas., Dr. Ernest L. Stebbins, 615 N. Wolfe St., Baltimore 5.

AMERICAN BOARD OF PROCTOLOGY: *Part I.* Philadelphia, May 7. It is possible that simultaneous examinations may be held in two other cities depending upon the geographic locations of candidates. *Part II.* Philadelphia, Sept. 17. Sec., Dr. Stuart T. Ross, 131 Fulton Ave., Hempstead, N. Y.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: San Francisco, mid-October; New York City, December. Sec., Dr. David A. Boyd, 102-110 Second Ave. S.W., Rochester, Minn.

AMERICAN BOARD OF RADIOLOGY: Chicago, week of May 22; week of Dec. 4. Final date for filing applications for the spring examination was Dec. 1, 1954. Candidates who will complete the required three years' training by June 30 will be eligible to appear for examination in May, and those candidates who will complete their training by Dec. 31 will be eligible to appear for examination in the fall. Sec., Dr. B. R. Kirklin, 429 First National Bank Bldg., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Part II.* Boston, May 16-17; Philadelphia, June 13-14. Sec., Dr. John B. Flick, 255 S. Fifteenth St., Philadelphia 2.

THE BOARD OF THORACIC SURGERY: *Written.* September. Final date for filing applications is July 1. Sec., Dr. Wm. M. Tuttle, 1151 Taylor Ave., Detroit 2.

MAGAZINE–TELEVISION REPORT

The following list of current medical articles in mass-circulation magazines and forthcoming network television programs on medical subjects is published each week only for the information of readers of THE JOURNAL. *Unless specifically stated, the American Medical Association neither approves nor disapproves of the articles and programs reported.*

TELEVISION

Monday, April 25

NBC-TV, 9 p. m. EDT. "Medic" tackles the subject of speech loss due to injury of the central nervous system in a program titled "Wall of Silence."

Friday, April 29

ABC-TV, 6 p. m. EDT. "Adventures of Ozzie and Harriet." The Nelsons give a testimonial dinner for their family doctor.

MAGAZINES

The American Weekly, April 24, 1955

"Do Doctors Charge Too Much?" by Elmer Hess, M.D.

In an article written especially for this magazine the President-Elect of the American Medical Association tells what a patient should do if he feels "he has not received proper consideration and treatment from his physician." He discusses some of the misunderstandings that come up between doctor and patient.

Everywoman's, April, 1955

"Bathroom Medicine," by Zulma Steele

The importance of a tidy medicine cabinet. The author lists items that should be in the cabinet—pointing out which should be recommended by a doctor—and lists nine important warnings.

"Measles?" by Repel A. Benson, M.D.

New York Medical College's professor of pediatrics answers the most frequently asked questions about measles.

Coronet, May, 1955

"Do Doctors Charge Too Much?" by William Kaufman, M.D.

Dr. Kaufman says the answer to this question is "no." He shows why this is true and concludes his article with this paragraph: "dollar for dollar, the price you pay your doctor for medical care is not out of line with the price you pay for everything else in the world today."

"A Pain in the Neck," by Noah D. Fabricant, M.D.

Published originally several years ago in *Today's Health,* the article describes causes of neck pains and their treatments.

Good Housekeeping, May, 1955

"Acne," by Maxine Davis

"Medical science has begun to develop some new and effective ways for dealing with acne—for controlling it or mitigating its effects, though not for curing it completely." New treatments described in this article are tetracycline hydrochloride, liver extract with vitamins, and hormone lotion containing estrogen. The author also tells of the use of surgical planing on patients with skin scarred from acne.

Look, May 3, 1955

"What Is Normal?" by Lawrence S. Kubie, M.D.

A psychiatrist tells of the fine points between "normal" and "neurotic" behavior. He answers a series of questions on drives and neuroses.

DEATHS

Molony, Clement Joseph ● Los Angeles; Washington University School of Medicine, St. Louis, 1934; associate clinical professor of pediatrics at University of Southern California School of Medicine; past president of the Southwestern Pediatrics Society; specialist certified by the American Board of Pediatrics; member of the American Academy of Pediatrics; served during World War II; member of the staff of St. John's Hospital, Santa Monica, and the staffs of Childrens, St. Vincent's, and Queen of Angels hospitals; died Dec. 4, 1954, aged 45, of malignant teratoma of the mediastinum.

Cobb, Clement Biddle Penrose ● New York City; Harvard Medical School, Boston, 1926; assistant professor of clinical pediatrics at Cornell University Medical College; specialist certified by the American Board of Pediatrics; member of the American Academy of Pediatrics; associated with the New York Hospital; died in the New England Deaconess Hospital, Boston, March 11, aged 54, of brain stem hemorrhage.

Crosse, John Charles ● St. Louis; St. Louis University School of Medicine, 1915; died in St. Mary's Hospital March 4, aged 67, of cancer.

Devlin, Oscar Eugene, Duncan, S. C.; University of Georgia Medical Department, Augusta, 1902; died Feb. 21, aged 74.

Francisco, John Winfield, Enid, Okla.; University of Tennessee Medical Department, Nashville, 1888; died Feb. 28, aged 93.

Funaro, Roberto ● New York City; Regia Universitá di Pisa Facoltá di Medicina e Chirurgia, Italy, 1906; died March 11, aged 71.

Gale, Frank Wilson ● Bismarck, Mo.; Beaumont Hospital Medical College, St. Louis, 1900; died Feb. 18, aged 80, of senility.

Griest, Oliver Edward, Monticello, Ind.; Jefferson Medical College of Philadelphia, 1915; died in the Lafayette (Ind.) Home Hospital Jan. 31, aged 65, of coronary thrombosis.

Hasler, Walter Thalman ● Provo, Utah.; College of Physicians and Surgeons, Baltimore, 1905; member of the Pacific Coast Oto-Ophthalmological Society; member of the city library board; on the staff of the Utah Valley Hospital; died Jan. 27, aged 79, of injuries received in a fall.

Hightower, Lewis Henry ● Itta Bena, Miss.; Vanderbilt University School of Medicine, Nashville, Tenn., 1899; died in the Greenwood-Leflore Hospital, Greenwood, March 7, aged 82.

Jacks, Robert R. ● St. Louis; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1905; formerly physician for the Menard (Ill.) Penitentiary; member of the State Medical Society of Wisconsin; died Feb. 26, aged 77.

Justice, Oswald M., Sherman Oaks, Calif.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1897; died March 4, aged 79, of coronary disease.

Klemme, John J., Joliet, Ill.; College of Physicians and Surgeons, Chicago, 1890; died March 1, aged 87, of acute myocardial infarction.

Konzelman, Paul Raphael, St. Louis; Barnes Medical College, St. Louis, 1899; veteran of the Spanish-American War; died in the Deaconess Hospital March 2, aged 80, of arteriosclerotic heart disease with decompensation and carcinoma of the prostate.

Laughlin, Frederick James, Dubuque, Iowa; Chicago College of Medicine and Surgery, 1914; died March 6, aged 74.

Mantell, Bernard ● Maywood, Ill.; Loyola University School of Medicine, Chicago, 1939; served during World War II; died in St. Mary's Hospital, Rochester, Minn., Feb. 18, aged 43, of heart failure and hypertension.

● Indicates Member of the American Medical Association.

Mead, John Jr., Detroit; Detroit College of Medicine, 1907; interested in industrial medicine early in his medical career and became associated with the Highland Park plant of the Ford Motor Company, where he was medical director of the hospital at that plant for many years until his retirement in 1948; after retirement, devoted himself to a new enterprise, Mead and Company; died in the Harper Hospital recently, aged 71, of acute pyelonephritis.

Reshower, Isidore Charles, Los Angeles; New York University Medical College, New York, 1897; died Dec. 5, 1954, aged 83.

Rich, Oliver S. ● Wichita, Kan.; Hahnemann Medical College and Hospital, Chicago, 1907; past president of the Kansas State Board of Medical Registration and Examination; associated with the Wesley Hospital, where he died March 1, aged 73, of coronary thrombosis.

Richard, Joseph Henry ● Dover, N. H.; Laval University Faculty of Medicine, Quebec, Canada, 1895; associated with the Wentworth Hospital; served as trustee of the Dover Public Library; died Feb. 14, aged 84, of cerebral hemorrhage.

Sanborn, George Phippen ● Boston; Harvard Medical School, Boston, 1901; formerly on the staff of the Boston City Hospital; died in the Peter Bent Brigham Hospital Feb. 10, aged 79, of cerebral hemorrhage.

Saunders, Weaver B. ● Sulphur Springs, Texas; Memphis (Tenn.) Hospital Medical College, 1909; died Feb. 20, aged 70.

Seibert, Franklin Monroe, Fremont, Ohio; University of Wooster Medical Department, Cleveland, 1891; served during World War I; resigned from the U. S. Veterans Hospital in Fort Snelling, Minn., Feb. 15, 1934; died Dec. 16, 1954, aged 88.

Snow, William Riley ● Abilene, Texas; University of Texas School of Medicine, Galveston, 1924; member of the American Academy of General Practice; past president and secretary of the Taylor Jones Counties Medical Society; served in France during World War I; a member of and for two years chairman of the staff of Hendrick Memorial Hospital; died Dec. 20, 1954, aged 61, of coronary thrombosis.

Sokoloff, Solomon, Woodmere, N. Y.; Universität Basel Medizinische Fakultät, Switzerland, 1937; served during World War II; died Dec. 7, 1954, aged 45, of acute coronary thrombosis.

Speers, Dorothy Jane ● Titusville, Fla.; Columbia University College of Physicians and Surgeons, New York City, 1949; died Jan. 4, aged 32.

Van Strander, William Harold ● Hartford, Conn.; University of Vermont College of Medicine, Burlington, 1900; specialist certified by the American Board of Radiology; member of the American Roentgen Ray Society and the American College of Radiology; served during World War I; for many years on the staff of St. Francis Hospital, where he died Feb. 13, aged 81, of cerebral hemorrhage.

Van Vlerah, Clyde C. B., Portland, Ore.; University of Oregon Medical School, Portland, 1914; member of the Oregon State Medical Society; died Feb. 23, aged 63.

Wheeler, Charles Holmes ● Haydenville, Mass.; University of Vermont College of Medicine, Burlington, 1907; on the courtesy staff of Cooley Dickinson Hospital in Northampton; school physician for many years; past president of the Hampshire District Medical Society; died March 11, aged 75.

Wilkes, Marcus Branch, Laurinburg, N. C.; North Carolina Medical College, Charlotte, 1912; died in the Memorial Hospital, Charlotte, Jan. 25, aged 69, of acute renal insufficiency.

Withers, Emile Quarles, Columbus, Miss.; College of Physicians and Surgeons, Memphis, Tenn., 1911; died March 12, aged 67.

Young, Pearl Raymond ● Ottawa, Kan.; University Medical College of Kansas City, Mo., 1905; on the staff of the Ransom Memorial Hospital; died Jan. 24, aged 78, of coronary occlusion.

FOREIGN LETTERS

DENMARK

The Legal Induction of Abortion.—Preparations for a revision of the law of 1939 show that its efficacy in the matter of the legal induction of abortion has not come up to expectations. The promoters of this law had hoped that it would keep such inductions within reasonable limits and would do much to check criminal abortions and quackery in this field. In a statistical review in *Ugeskrift for læger* for Jan. 20, of the workings of the law, Dr. M. Jensen points out that the number of legal abortions rose from 522 in 1940 to 4,981 in 1952. In 1940, 4,945 cases of abortion were treated in hospitals. The corresponding figure for 1952 was 12,339. While the upward trend of the birth rate culminated in 1946, and has been followed since then by a marked fall, the number of abortions has shown a steady rise, and of late years there have been about 20,000 abortions annually, roughly 5,000 of them being legal abortions. Among the remaining 15,000 abortions about 6,000 may have been spontaneous, whereas the other 9,000 were probably induced illegally. It has also been calculated that only about 70% of pregnancies in greater Copenhagen go to term. The corresponding figures for the larger provincial towns have been put at 80 to 85%, and in certain counties it is 90%. Jensen's figures for the legal induction of abortion in 1952 show that 75.5% concerned married women, 15.6% unmarried women, 7.6% separated or divorced women, and 1.2% widows. He calculated that 4.9% of the 20,000 unmarried women who had become pregnant every year achieve the legal induction of abortion. He also showed that the indications for the legal induction of abortion have changed greatly since the law of 1939 came into force. Thus in 1940 only 29.1% of such abortions were induced on psychiatric indications, whereas the corresponding figure for 1951 was 76.5%.

ENGLAND

Clostridium Welchii Type D in Man.—Clostridium welchii type D has, for the first time, been isolated from the human intestinal tract (*Lancet* 1:384-385, 1955). Drs. M. H. Gleeson-White and J. J. Bullen from Addenbrooke's Hospital, Cambridge, report the case of a 53-year-old man who was admitted to the hospital with a history of severe colicky abdominal pain and vomiting of one day's duration. A laparotomy was performed, and strangulation of the ileum by an adhesion was found. Five feet of gangrenous ileum were resected, but, in spite of all efforts at resuscitation, the patient died. At autopsy, hemorrhage was found to have occurred from a branch of the superior mesenteric artery. Bacteriological examination of samples of intestinal contents revealed large numbers of Cl. welchii, a suspension of which was lethal when injected into mice. This effect could be neutralized by type D but not by type A antiserum. No toxins lethal to mice were isolated from samples of ileal contents taken at 33 autopsies selected at random, although Cl. welchii were found in more than half. The immediate cause of death was probably postoperative hemorrhage, but the absorption of epsilon toxin from the obstructed ileum may have been a contributory factor. A second case was reported in the same issue by Dr. J. Kohn and his co-workers. A 41-year-old white man complained of severe diarrhea while in the hospital for treatment of ankylosing spondylitis. He had had amebic dysentery in 1943, followed by mild colitis. His general condition was good, and a barium enema showed only slight diminution of haustration. Cl. welchii were cultured from his stools and were found to have a toxigenic pattern consistent with a type D strain. Re-examination of the stools after four weeks produced exactly the same results, and the patient's serum was found to contain 0.2 unit of epsilon antitoxin per milliliter. This antitoxin was not detectable in the serums of nine healthy controls. This organism, which is generally regarded as the cause of enterotoxemia in sheep and goats, has now been found in man in whom it also appears to play a pathogenic role.

The items in these letters are contributed by regular correspondents in the various foreign countries.

ITALY

Fracture of the Elbow.—At a meeting of the Salento Society of Medicine and Surgery in Lecce, in July, 1954, Professor Cappellin reported on 39 cases of fracture of the elbow in adults. These were supracondylar and intercondylar, and it was difficult to get good functional results. He used closed extemporaneous reduction with good results in three patients. Skeletal traction followed by reduction was used in 21 patients, with excellent results in 6, good results in 14, and poor results in one. Open reduction with osteosynthesis gave good results in four and poor results in three patients. Early and primary arthroplasty gave excellent results in two, good results in three, and poor results in one. The speaker recommended the following principles. 1. Extemporaneous reduction should be limited to recent fractures with moderate decomposition of the fragments; the good results secured in such cases are explained by the fact that the lesions treated this way were relatively mild. 2. A reduction preceded by skeletal traction must always be attempted because from a radiological and functional standpoint it often gives brilliant results even in patients with severe lesions; when a satisfactory reduction is not possible, the traction prepares the joint for the surgical intervention, the hematoma is reabsorbed, and the fragments are partially reduced. 3. Reduction with osteosynthesis often results in a rigid elbow; the joint is, however, solid, painless, and does not prevent adequate function of the extremity. (This treatment may also be used for laborers or farmers.) 4. Early and primary arthroplasty renders possible a wide range of movement after seven or eight months; the elbow is, however, weak and not very stable; this type of intervention is indicated for women and professional people.

SWEDEN

BCG Vaccination.—The most recent publications concerning BCG vaccination in Sweden continue to confirm the favor in which it is held in this country. The technique enjoying the most uniform vogue is the intracutaneous injection of 0.05 mg. of BCG on the outer side of the left thigh of newborn infants. Eight weeks later tuberculin testing is carried out by the Mantoux method, a reaction being regarded as positive when it is at least 10 mm. wide after 72 hours. In *Svenska Läkartidningen* for Jan. 21, 1955, Dr. Olof Brandberg reports his study of the behavior of 24,947 infants in a Swedish County with a population of about 230,000, who became tuberculin-positive after BCG vaccination in the 11 year period from 1943 to 1953. A classification of the local reactions showed that the overwhelming majority of them were slight, with only 2.6% moderately severe and only 0.9% severe. All these reactions ended in healing, though there were a few with a discharge lasting as long as six months. Only in one case was the BCG vaccination at birth followed by signs of pulmonary tuberculosis at the age of 8 months. Recovery followed after six months of treatment. None of the vaccinated infants developed tuberculous meningitis subsequently, whereas during the period under review there were eight such cases among children who had not been vaccinated. Six years after vaccination only 12.3% of the children had again become tuberculin-negative. The extent to which tuberculosis is declining as a serious infection is indicated by the reduction in the number of hospital beds for patients with tuberculosis in the period under review. In Brandberg's county there were 388 such beds available in 1943, and the demands on them were such that there was usually a waiting list. In 1953 the number of beds was reduced to 186.

CORRESPONDENCE

FROSTBITE DUE TO PROPANE

To the Editor:—A search of the medical literature reveals no mention of frostbite due to freezing by propane. We have recently encountered such a case and have heard of several other cases scattered through our territory. Because of the increasing use of propane in combustion engines, particularly in rural areas, such accidents are likely to become more frequent. The people who handle propane, as well as the medical profession, should be aware of the hazard of frostbite when this gas is used. Recently farmers have converted a large number of tractors from gasoline to propane. Propane is said by its proponents to be more economical, to have higher octane with less carbon, and to permit longer motor life. Because it is stored as a liquid under pressure, a heavier tank is required for propane and it is more difficult to handle than is gasoline. When the pressure is released, propane changes from a liquid to a gas, producing a freezing temperature of –44 F at atmospheric pressure.

Our patient was a 44-year-old farmer, who was admitted to the hospital as an emergency patient on March 13, 1954. About one hour before admission, he was filling the tank on his tractor with propane gas, and, while trying to close a valve, he exposed his hands to propane escaping from a leak for an estimated period of one to three minutes. He immediately had a sensation that his hands were quite cold, but there was no severe pain or discomfort. One hour later, by the time he had reached the hospital, there was severe pain in both hands. His blood pressure and pulse rate were normal. His blood vessels and general circulation were normal for a man of his age. On admission his hands and fingers were white, blanched, and extremely cold from the wrists down. He was immediately taken to surgery, and bilateral brachial blocks were done with 1% procaine. Within 15 minutes, his hands and fingers became warmer and developed a cyanotic appearance. There were no blisters and no breaks in his skin. His hands were put in pressure dressings, using cotton and elastic bandages. On the following day the dressings were removed, and there was edema of his hand and large blisters. Excoriations of the skin of his hand was noted. On March 22, because of gangrene, two fingers were removed and thrombosis was found in the lateral digital arteries of both of these fingers. It was necessary to amputate a total of four fingers and to apply skin grafts. The patient was discharged from the hospital on April 17, at which time he was unable to use his hands and fingers because of limitation of motion of the joints. This occurred in spite of continuous efforts to exercise his hands and fingers while in the hospital. It is believed that the limitation of motion was due to the dense fibrosis that occurred in the skin and soft tissues.

The patient was not aware of the hazard involved and was not quick enough mentally to cut off the supply tank at its source and thus stop the escaping propane. The fire and explosive hazard of propane have been well publicized, and apparently those who dispense it are aware of the danger of frostbite. This man was not properly informed about the use of it. The retail agent should explain this hazard and give proper precautions to all exposed to it. Rapid thawing, plus local care, preventing infection, and conserving viable tissue are the most reliable therapeutic measures. Less dependable measures are sympathetic block and possibly anticoagulant therapy with heparin.

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Jackson, Tenn.

CIGARETTE SMOKING AND LUNG CANCER

To the Editor:—A letter by Dr. L. H. Garland appeared on page 268 of the Jan. 15 issue of The Journal under the heading "Cigarette Smoking and Lung Cancer." By quoting certain percentages, he tries to show that, even if cigarette smoking increases the hazard of lung cancer, the hazard is still trivial. He pointed out that a certain study indicates that, out of every 100,000 men aged 50 to 69 who are heavy cigarette smokers, about 99,761 do not die of lung cancer and only about 0.24% do die of this cause within a space of 20 months. A proportion so small as 0.24% does indeed sound too insignificant to cause any serious worry. Now let me apply this line of reasoning to another less controversial cause of death. Out of every 100,000 Americans, 99,976 were not killed in motor vehicle accidents, and only 0.024% died of this cause in 1952. Now 0.024% is a very small proportion, but, applied to the population of the United States, the resulting number is 37,794, that many Americans having been killed in motor vehicle accidents in 1952. Whether such a number of lives lost each year is to be considered unimportant depends upon the value placed upon human life. It is my impression that the medical profession places a very high value on human life. Neither motor vehicle accidents nor lung cancer, which is currently killing about 26,000 Americans a year, are among the leading causes of death in the United States; however, it is only by striving to reduce death rates from each and every cause that substantial progress in extending life expectancy will continue to be made. By no stretch of the imagination can arteriosclerotic heart disease be considered unimportant, since it is reported to have accounted for 352,135 deaths in 1952. It has been shown that at least among white men aged 50 to 69 death rates from this disease are far higher among heavy cigarette smokers than among nonsmokers. Such an association between a habit and the leading cause of death is important regardless of the explanation. But, since we all must still die of something, perhaps when we die is of as much importance as what takes us off. One may, by juggling figures, quibble over the chance of dying of cancer of the lung, but less amusing is the shortening of life that appears to be associated with heavy smoking—an association not yet denied by any competent authority on the basis of evidence.

Dr. Garland apparently thinks that the results of the study by Drs. Hammond and Horn on smoking in relation to death rates (*J. A. M. A.* 155:1316 [Aug. 7] 1954) were published prematurely. The American Cancer Society's qualitative findings concerning lung cancer fully confirmed the findings of a dozen or more studies conducted by another method and previously published by other authors. We specifically stated that our findings in respect of the degree of association between smoking habits and lung cancer should be considered preliminary. Our findings relating to associations between smoking habits and the over-all death rate as well as the death rate from coronary artery disease were based upon large numbers and were statistically significant beyond the slightest doubt. Under such circumstances there was no valid reason to keep them secret. It is possible that other large-scale studies presently under way will prove the charge of prematurity to be itself premature. Dr. Garland goes so far as to suggest "undue pressure in early publication." I assure the readers of The Journal that there is not the slightest basis for such a statement.

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New York 19.

MEDICAL FILM REVIEWS

Surgical Approaches to the Spine and Sacroiliac: 16 mm., color, sound, showing time 27 minutes. Produced in 1953 by Churchill-Wexler Productions, Los Angeles. Technical adviser: LeRoy C. Abbott, M.D., University of California. Procurable on loan from Veterans Administration, Central Office Film Library, Washington 25, D. C.

A cadaver is used in this film to demonstrate the surgical approach to the joint, and a diagram is used to clarify the steps in the procedure. Approach to the lumbar aspect of the spine is illustrated by an operation on a cadaver. Recapitulation in animation clarifies the steps in the procedure. The anatomy of the sacral and gluteal regions is well and adequately demonstrated. This is also true of the portion of the film that treats the surgical approach to the retroperitoneal space. This is an excellent film and will prove of great value as an anatomic demonstration and as a demonstration of surgical technique. It is recommended for medical students, residents, and orthopedic surgeons.

Modern Massage Technics: 16 mm., color, sound, showing time 30 minutes. Produced in 1954 by the University of Connecticut School of Physical Therapy. Procurable on rental ($4.00) or purchase ($220.00) from Audio Visual Center, University of Connecticut, Storrs, Conn.

This motion picture illustrates the current techniques being taught generally that are involved in the administration of the basic strokes in massage, with emphasis on the fundamental principles. Close-up shots of the hands applying these strokes to the back show both powder and more sharply defined finger paint patterns left by the moving hands. Through the use of slow motion photography, the techniques can be analyzed. The chief value of this film lies in the fact that the individual sequences are very good educational presentations of the various techniques of massage. The use of finger paints is a unique method of demonstrating the pattern of massage; however, the color quality is disturbing. Since this film is to be used as a teaching aid, it would be well to indicate that certain of these strokes are generally used in an area of organic disease. In view of the fact that there is a need for a good teaching film in this subject area, it is a matter of regret that the technical aspects of this film are quite inferior. If one can overlook these shortcomings, the film can be recommended as an aid in teaching specific massage techniques to nurses, physical therapists, and physical education and medical students.

It's All in Knowing How: 16 mm., color, sound, showing time 13 minutes. Produced in 1954 by the Chicago Film Laboratory for the National Dairy Council and affiliated units. Procurable on loan or purchase ($150.00) from Association Films, Ridgefield, N. J., and regional offices of Association Films.

This film shows a boy who has become careless about his living and eating habits. It progresses through his reawakening (with the interest of parents, a teacher, and friends) to the influence of this carelessness on how he feels and what he can do. The action is climaxed by an animated chart demonstration of desirable food selection and is concluded with the gradual but not miraculous return of physical and emotional health as the boy pays attention to taking care of himself. This is chiefly a motivating film rather than an actual teaching film. The nutritional information is scientifically accurate. The photography is excellent and the narration very well done. It is suitable for parent-teacher and young people's groups to acquaint them with the problem and for discussions of adolescent psychology and nutrition.

Infant Allergy: 16 mm., color, sound, showing time 11 minutes. Prepared by Irvin H. Moore, M.D., Minneapolis. Produced in 1953 by Empire Photosound, Inc., Minneapolis, for and procurable on loan from the Prescription Products Division of the Borden Company, 350 Madison Ave., New York 17.

This film presents four cases of infant food allergy, of which three are typical and one is a rare condition. The first three cases show infants who had developed colic and eczema and were found to be allergic to cow's milk and other foods. The fourth case is one of allergic purpura and typical thrombocytopenic purpura occurring at the same time. Each child is shown before and after the addition of Mullsoy and elimination of allergy-causing foods from his diet. In all cases the clinical allergic manifestations had completely disappeared. It is suggested that a trial elimination diet will often solve the problem of allergic symptoms. Essentially this film is scientifically accurate; however, the frequent use of the trade name of the product and its prominent display makes this seem at times like a motion picture advertising brochure. The narration is fair, and at the beginning of the picture the pace is too rapid. This film could be used as a basis for discussion of the subject of infant allergy and will be of interest to pediatricians, allergists, and general practitioners.

LAW DEPARTMENT

MEDICOLEGAL ABSTRACTS

Drunkenness: Admissibility of Results of Breath Test Forcibly Made.—The defendant was charged with driving a motor vehicle while intoxicated. The trial court, before disposing of the case, submitted, for its own guidance, four questions to which answers were sought from the Supreme Court of Arizona.

Shortly after his arrest, the defendant was requested by police officers to submit to a drunk-o-meter test. He refused, but the test was made anyway. On the appeal it was not clear whether defendant's breath was in some way forced from his lungs for use in the test or whether he was merely held so that his breath could be captured by the apparatus of the machine after it had left his mouth. Four questions were presented to the Supreme Court. 1. Is the result of a drunk-o-meter test, when obtained by force, admissible in evidence in a criminal case against the one tested? 2. Would the forcible obtaining of a breath specimen for such a test be a violation of the self-incrimination provision of the Arizona constitution? 3. Would the forcible obtaining of a breath specimen for such a test be a violation of the wrongful search and seizure clause of the Arizona constitution? 4. Would the forcible obtaining of a breath specimen for such a test be a violation of either the self-incrimination or the wrongful search and seizure clause of the federal constitution?

The Supreme Court's advisory presented the following opinion. 1. If the evidence showed that the test was conducted without forcibly extracting breath from the defendant's lungs, the result of the test should be admitted in evidence. In the majority of jurisdictions, evidence, even though obtained by unlawful search and seizure, is deemed competent and admissible in a subsequent criminal proceeding in a state court. 2. Admitting the result of the test in evidence could not be deemed compulsory self-incrimination, for it is generally accepted that this constitutional freedom refers only to forcing a person to orally testify against himself and to producing papers containing incriminatory statements; in other words the freedom protects only testimonial evidence and not real evidence. 3. A reasonable search of a person may be conducted as an incident to a lawful arrest. The Court said that a slight force, temporarily restraining the body, may be permitted in conducting such a search. Assuming that the force used in the instant case was only that necessary to enable the officers to capture defendant's breath after it had left his mouth, it would be deemed a reasonable search-and-seizure, not forbidden by the constitution. 4. The making of the test could not be a violation of the self-incrimination and unlawful search and seizure provisions of the federal constitution, for the acts complained of were committed by state officials rather than the federal officials. In deciding these various points, the Supreme Court also considered whether the admission in evidence of the result of such a test would violate the "due process of law" clause of the 14th amendment of the federal constitution (which provision applies to state action). The Court concluded that it would not. Making the test was a lawful search and seizure, and the use of incriminatory evidence, taken from a defendant, has been held not to be a violation of concepts of fundamental justice.

Accordingly, the Supreme Court advised the trial court that it answered "yes" to question one and "no" to the other three questions. *State v. Berg, 259 P. (2d) 261 (Ariz., 1953).*

MEDICAL LITERATURE ABSTRACTS

INTERNAL MEDICINE

Lung Cancer and Smoking. W. L. Watson and A. J. Conte. Am. J. Surg. 89:447-456 (Feb.) 1955 [New York].

A positive histological diagnosis of cancer of the lung was established in 301 of a series of 769 patients seen consecutively at the Memorial Hospital thoracic clinic from 1950 to 1952. Evaluation of the smoking habits of these and the other 468 patients in the series who served as controls showed that 98.2% of the men with lung cancer were smokers as compared with 90.3% of the men in the control group. Classification of the patients as heavy, moderate, or minimal smokers showed that 73% of the men with lung cancer were heavy smokers (from 20 to 60 cigarettes a day, with inhalation) as compared with only 57% of the men in the control group. The ratio of men to women in this series was more than 7 to 1, and all but 1 of the 15 women with lung cancer who smoked fell into the minimal to moderate classification. The fact that the increase in lung cancer in men has been much greater than that in women is especially significant because of the marked difference in smoking habits between the two sexes; only in recent years has there been a substantial increase in the number of women smokers. All the evidence obtained from this and other studies strongly suggests that there is an association between heavy chronic smoking and cancer of the lung, and even those who are critical of attempts to establish a causal relationship between the two admit that tobacco smoking, especially in cigarettes, may be a factor in sensitive persons. Prevention of the disease depends on the identification and elimination of the specific carcinogen apparently contained in tobacco smoke and a more complete study of the other factors, such as atmospheric pollution, occupational hazards, and exhaust fumes from vehicles, that may enter into its production. Early diagnosis, however, should lower the mortality rate and lead to a better survival rate.

Bronchogenic Carcinoma. F. Murray. Am. J. Surg. 89:465-469 (Feb.) 1955 [New York].

Bronchogenic carcinoma usually extends, not only into the body of the lung, but also into the lumen of the bronchus, where it interferes with the normal expansion and contraction of the bronchial wall during respiration. The obstruction of the bronchus increases gradually, hindering normal ventilation and the drainage of the bronchial airways distal to the growth. Emphysema and atelectasis often occur in cases in which the protruding portion of the tumor is pedunculated. Pneumonitis develops and may be either resolving or organizing in character. The changes in pulmonary dynamics resulting from these phenomena explain the marked variations in the symptoms, physical findings, and roentgenograms presented by patients with bronchogenic carcinoma. The behavior of the tumor is governed by its basic cell type, which may be squamous (epidermoid, epithelioma), small cell (oat, transitional), or adenocarcinomatous. The more anaplastic the tumors, the more intensive and accelerated are their invasive properties. Cells of more than one type may appear in a single tumor, but whenever possible the dominant type should be determined, because the differences in malignancy, location, duration or rate of evolution, and manner of metastasizing shown by the various types have a determining influence on the prognosis and operability in each case. Tumors of the squamous-cell type constitute about 42% of all bronchogenic carcinomas; the small-cell type (including the undifferentiated cell, so-called oat cell, and transitional types of tumors) accounts for about 30%; and adenocarcinomas form the remaining 25%. The most anaplastic, fastest growing, and therefore most lethal in prognosis is the small-cell type, which usually leads to death within from three to six months after the appearance of the first symptoms. Tumors of this type, which are invariably located close to the hilum and often arise from a major stem bronchus or one of its immediate branches, are the least resectable of all. Adenocarcinomas, which are the type found oftenest in women and which are believed to be congenital in origin, are also often unsuitable for operation because of the frequency with which they give rise to metastases. The symptoms caused by metastases to the brain and other structures may even appear in advance of those caused by the primary adenocarcinomatous tumor. Roentgenograms taken during the latent period before the appearance of the first overt sign often show abnormal shadows indicative of changes in the lung or mediastinum, thus making it possible to detect the tumor while it is still operable. Mass chest x-ray surveys of persons between the ages of 45 and 65, especially those who have been heavy smokers for years, would certainly lead to the saving or at least the prolongation of many lives. One or more attacks of acute upper respiratory infection are usually noted in the history of patients with lung cancer. The definitive symptoms in their order of frequency are cough and expectoration, pain, dyspnea, wheezing, anorexia, loss of weight and strength, fever, hemoptysis, pressure symptoms, anemia, and cachexia, and occasionally pulmonary osteoarthropathy (clubbed fingers). The frequency of pleural effusions is variously estimated at from 15 to 45%; they are more apt to occur with the adenocarcinomatous type of tumor and others that are peripherally located. The prognosis of bronchogenic carcinoma is always grave. Surgical excision offers the only possible chance of a lasting cure, and its success is always directly proportional to the promptness with which the diagnosis is established. The immediate operative mortality is encouragingly low (from 10 to 15%).

SURGERY

Role of Pulmonary Insufficiency in Mortality and Invalidism Following Surgery for Pulmonary Tuberculosis. E. A. Gaensler, D. W. Cugell, I. Lindgren and others. J. Thoracic Surg. 29:163-187 (Feb.) 1955 [St. Louis].

Screening studies of pulmonary function were performed before operation in 460 patients with advanced pulmonary tuberculosis. Early mortality was 4.3%. Respiratory failure, accounting for 8 of the 20 deaths during this period, was the most important cause of early mortality. All eight patients in this group had a preoperative maximal breathing capacity of less than 45 liters per minute, a vital capacity of less than 2 liters, and a walking dyspnea index of over 35%. "Compensatory" emphysema was the most important factor contributing to pulmonary insufficiency and was demonstrated in all but one of the patients who died of respiratory failure. The preoperative function of the lung to be operated on was not a factor in mortality; in four of the eight patients who died, the involved lung had been devoid of function preoperatively. Among 96 patients who were operated on on the major side, there were no fatalities. Late mortality was 3.9%. Respiratory failure was responsible for 6 of the 17 deaths that occurred from 30 days to 6 years postoperatively. Recurrent bronchial asthma, cor pulmonale with cardiac failure, and "compensatory" emphysema were the main complications in this group. Some dyspnea was reported after recovery by 22.6% of the patients, and this led to severe or total disability in 7.8%. Pulmonary insufficiency, severe

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The place of publication of the periodicals appears in brackets preceding each abstract.

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enough to cause dyspnea at rest or on the slightest exertion, was not compatible with life for more than a few months. Postoperative disability could be related to the type and extent of operation, to the degree of preoperative dyspnea, and to objective measures of preoperative pulmonary function. The access to objective data concerning pulmonary function, at the time operative decisions were made, did not entirely eliminate postoperative invalidism and deaths due to respiratory failure. Most often, an unfortunate outcome after surgery occurred when pleas of patient, relatives, and ward physician prevailed over objective data from the laboratory. A number of poor results were due to the misconception of the era that staged thoracoplasty, particularly anteriorly, is more easily tolerated than other collapse procedures. Function studies were of little prognostic value in patients with bronchial asthma if evaluation was made during an asymptomatic phase. Two patients who were considered to be too ill to have function studies did not survive operation. Unexpected disability after recovery usually could be traced to operative complications. Accidentally induced pneumothorax, hemothorax, atelectasis, bronchopleural fistula with empyema, and extension of the disease were the most frequent offenders in this regard. Rarely, misinterpretation of available data was responsible for respiratory fatalities or undue disability after operation. The maximal breathing capacity and other tests that are sensitive to obstructive ventilatory insufficiency, particularly timed vital capacity and air velocity index, proved of greatest prognostic value. The vital capacity was often misleading and was useful chiefly when viewed in the light of other function tests. The dyspnea index after walking usually was merely a reflection of the maximal breathing capacity and not of exercise ventilatory requirement. The breath-holding test proved to be worthless. Bronchospirometry was the most helpful of the special tests. Residual volume and intrapulmonary mixing determinations in these cases served chiefly to differentiate true emphysema from hyperinflation. With increasing experience, the interpretation of these tests improved and the results were viewed with greater confidence; 13 of the 14 "respiratory" deaths occurred during the first three years of the authors' six year experience (1947-1953).

Successful Cardiac Resuscitation Despite Perforation of the Heart During Massage. C. Haight and H. Sloan. Ann. Surg. 141:240-245 (Feb.) 1955 [Philadelphia].

The 62-year-old man whose history is reported was anesthetized for resection of a tuberculous lesion in the right upper lobe. After intubation had been done, marked slowing of the pulse was noted, and at 8:45 a. m. no cardiac action was present. A left anterior thoracotomy was carried out through the fourth interspace. Cardiac massage was started at 8:46½ a. m. through the intact pericardium. The pericardium was then opened by a longitudinal incision anterior to the phrenic nerve. On so doing a small, superficial incision was made in the myocardium of the left ventricle. After five minutes of massage, weak cardiac contractions were restored. To stimulate the heart 0.5 cc. of epinephrine hydrochloride 1:20,000 was injected into the right ventricle. The cardiac contractions improved. With massage the blood pressure was 80/60 mm. Hg, without massage it was 35/25 mm. Hg. At 9:05 a. m. a sudden hemorrhage occurred through the anterior surface of the heart. A laceration, 2.5 to 3 cm. in length, was located in a thin portion of the right ventricle, presumably the site of a previous myocardial infarct. The bleeding was partially controlled by pressure on gauze packs, which were held in place with one hand, while massage was carried out with the other hand. This was continued for at least 30 minutes. Blood loss was replaced by massive transfusions. Sutures of heavy silk were placed in the wall of the ventricle on two occasions, but these tore out. Finally, a doubled suture of heavy catgut was inserted at the caudal end of the laceration. On locking this suture it cut through the ventricular wall on one side of the laceration but held on the other side. The suture was then run as a continuous one throughout the length of the laceration. With continued massage the heart beat feebly but would not sustain a beat that produced a palpable peripheral pulse. Intermittently, the massage was discontinued for intervals of 10 to 30 seconds to determine if spontaneous heart beats would continue. On each occasion, the heartbeat became slower and more feeble. With resumption of massage, the heartbeat improved in rate and force of contraction. Epinephrine hydrochloride was injected into the ventricle at intervals, but it became ineffective. An impasse was reached, in that nothing produced lasting improvement. It was then decided to massage the heart in rhythm with the heart's own weak contractions. Effective cardiac contractions began and a blood pressure of 118/110 mm. Hg was recorded at 12:04 p. m. This was maintained with the help of norepinephrine. Because of the patient's desire to return home, he was discharged about seven weeks after the cardiac arrest, on July 18, 1952. During the night of Sept. 11, 1952, following a day when he had been able to enjoy a brief period of outdoor activity, the patient had acute precordial pain and died within several minutes.

NEUROLOGY & PSYCHIATRY

The Headache of Intracranial Aneurysm. W. R. Chambers. J. M. A. Alabama 24:193-197 (Feb.) 1955 [Montgomery, Ala.].

Since headache is such a prominent and frequent symptom of intracranial aneurysm, long before subarachnoid hemorrhage occurs, this study was undertaken to see whether there were any characteristics that might guide the practitioner to the early detection of the aneurysm. This report is based on 19 cases observed by the author and on 4 cases from the literature. The headache of intracranial aneurysm falls into two phases, the early and the late. The early headache, or head pain, is probably due to stretching of the pain-sensitive structures at the base of the skull. The later pain is more often associated with bleeding from the aneurysm and a chemical meningitis. In the cases reviewed, occipital pain was fully as frequent as that behind the eye. This was true both of the early premonitory headache and that which presaged rupture of the aneurysm. The original headache, which may have a duration of anywhere from 3 days to 12 years, was seldom associated with cranial nerve palsies but was often complicated by slight mental changes, including periods of momentary unconsciousness and deviations of personality, by photophobia and by dizzy spells. Cranial nerve palsies tended to come on late and were either a prediction of impending rupture or an evidence of rupture itself. The course of the disease often, but not always, eventuated in coma or hemiparesis or other evidences of severe generalized central nervous system involvement. To differentiate the headache of intracranial aneurysm the physician should be suspicious of any migraine that suddenly changes position, character, or intensity and that starts after the age of 40. Any "ophthalmoplegic" migraine should be considered indicative of aneurysm until it has been ruled out. The diagnosis of aneurysm should always be kept in mind and can usually be made by angiography.

Osteo-Arthritis Deformans of the Luschka Joints. A. J. E. Cave, J. D. Griffiths and M. M. Whiteley. Lancet 1:176-179 (Jan. 22) 1955 [London, England].

Although it is currently fashionable to ascribe a significant proportion of cases of cervicobrachial neuritis to a herniation or protrusion of a cervical intervertebral disk, Cave and associates direct attention to a more obvious and ubiquitous cause, namely, a deforming osteo-arthritis of the joints of Luschka (neurocentral joints), a disease that constitutes, in their opinion, the commonest mechanical cause of cervical nerve-root irritation. Their study is based upon the examination of the bony changes in a series of 50 macerated cervical spinal columns of known age and sex, upon the detailed dissection of a further 10 adult cervical spines with particular reference to articular and disk changes, and upon the clinical and radiological examination of unselected patients attending the surgical outpatient department of St. Bartholomew's Hospital with symptoms or signs of cervicobrachial neuritis. Twelve selected typical case histories are presented. With regard to the clinical features the authors say that osteoarthritis of the Luschka joints is a common disease of insidious onset, declaring itself most often in the fifth and sixth decades of life, but beginning not infrequently in the fourth. It is progressive, and an increasing number of Luschka joints become involved in the later decades and the individual distortion of each joint becomes more pronounced. Trauma is not a cause, and the cervical zygapophyseal joints are normal.

The clinical picture is a cervicobrachial neuritis, involving the roots of the cervical or the brachial plexus or of both. The syndrome, which is typical of a mechanical irritation of the cervical nerve roots, includes, in order of importance, pain, paresthesia, diminished sensation to pinprick, diminished reflexes, muscle weakness, and, rarely, muscle wasting. Diagnosis depends on the nature and distribution of the pain and/or paresthesia; intensification of pain on cervical movement (generally ipsilateral); the mode of onset and remissions; the age of the patient; and confirmation by lateral oblique radiographs of the neck. Neurocentral apophysectomy of the affected joints is the only means of permanent cure, but how practicable such an operation may prove when a number of Luschka joints are involved the authors are not competent to say. Palliative therapy, apart from analgesics, includes long courses of short-wave diathermy (which may induce a remission) and immobilization of the cervical spine by a plastic or plaster collar splint (which may afford relief during acute phases). Neck traction or manipulation is valueless and is likely to aggravate symptoms.

GYNECOLOGY & OBSTETRICS

The Bolen Test in Malignant Neoplasms of the Uterus. M. Chizzolini. Riv. ostet. e ginec. prat. 36:504-510 (Oct.) 1954 (In Italian) [Milan, Italy].

The Bolen test for malignant neoplasm is based on the microscopic pattern of a drop of the patient's blood. The drop, which should never be greater than 8 mm. in diameter, is collected on a slide and allowed to dry at room temperature. The fibrin network and the cells assume different topographic aspects according to whether the blood was that of a healthy person or of one with cancer. In the blood pattern of a healthy person the fibrin network is continuous and regular and the red blood cells are distributed homogeneously and uniformly; in that of a person with cancer the fibrin network is broken and not well defined, large "lakes" are present, and the red blood cells cling together coarsely and disorderly. In some conditions other than cancer—tuberculosis of the pelvis and pregnancy—the microscopic blood pattern is not normal, but the alterations are not so marked as those in the pattern of patients with cancer and the lakes appear much smaller. The author has been using this test for the last three years at the University of Padua, and he obtained correct diagnoses in 87% of the cases. It is interesting that the diagnoses were correct also in patients with stage 1 cancer. In the 170 patients with cancer of the uterus whom he studied the author found also a parallelism between an increased erythrocyte sedimentation rate and a positive Bolen test. In 21 patients in whom the test had strongly indicated the presence of cancer the sedimentation rate of the venous blood was abnormal whereas that of the arterial blood was normal. Chizzolini feels that this might be an important datum. The fibrinogen was also evaluated in these patients, and a certain parallelism was found between increased plasma fibrinogen and increased sedimentation rate. But there seemed to be no clear relationship between the fibrinogen values and the blood pattern so far as the fibrin network was concerned. He concludes that the most important characteristics to consider in the Bolen test are well defined, large, and irregular "lakes" and the accumulation of cells rather than the characteristics of the fibrin network.

Support of Perineum with Hyaluronidase. K. H. Frenzel. Zentralbl. Gynäk. 76:1602-1604 (No. 35) 1954 (In German) [Leipzig, Germany].

The softening effect of hyaluronidase on connective tissue is being utilized for the protection of the perineum during delivery. Frenzel employs the hyaluronidase preparation, Kinetin, which is a dry substance available in ampuls, containing 10 units each. He dissolves the contents of an ampul in 10 cc. of isotonic sodium chloride solution or in 10 cc. of procaine hydrochloride solution. This solution is injected into both sides of the perineum about 15 minutes before the expected delivery. The injection should not be made too deep into the musculature of the pelvic floor but rather under the skin, so that a wheal forms in the region of the posterior commissure. The softening effect becomes noticeable after about 10 minutes and lasts for from 6 to 12 hours. The perineum becomes soft and stretches like rubber as the fetal head pushes through. The author used the hyaluronidase preparation in primiparas with high and rigid perineum and in multiparas with a cicatrized perineum. Seven first degree perineal tears and one second degree perineal tear occurred in 44 primiparas with high and rigid perineums. Episiotomy was necessary as an added measure in only one of the 44 primiparas in whom hyaluronidase had been used. The author feels that without the use of hyaluronidase episiotomy would have been necessary in all of these 44 primiparas. The results were even more favorable in eight multiparas with old, poorly healed perineal lacerations and high, cicatrized perineums. The author recommends the use of hyaluronidase also in cases in which the use of forceps becomes necessary. Hyaluronidase infiltration of the uterine os in several cases, in which the period of dilatation was retarded, however, proved ineffective.

PEDIATRICS

Fetal Erythroblastosis Caused by Immune Anti-A. F. Kissmeyer-Nielsen, A. Stenderup, E. Galatius and J. Thomsen. Ugeskr. læger 116:1803-1808 (Dec. 30) 1954 (In Danish) [Copenhagen, Denmark].

Hemolytic disease in the fetus may occur because of other blood type antibodies than rhesus antibodies, as illustrated by the case of grave hemolytic disease in a newborn infant with type A, due to immune anti-A formed in the mother. Exchange transfusion was done with two portions of fresh O blood. Donors with low anti-A titer were chosen. The ABO antisubstances of the donor blood were neutralized with pure AB substance. The first portion was given as whole blood, the second as packed blood corpuscles, concluding with a hemoglobin per cent of 140. The jaundice disappeared in a week. Examination of the infant on discharge five weeks later showed normal development. ABO erythroblastosis can occasionally be so marked as to call for the same therapeutic measures as grave rhesus erythroblastosis. While there is usually warning of rhesus erythroblastosis early in pregnancy, on establishment of the rhesus antisubstance in the mother's serum, an indication of ABO erythroblastosis before the disease becomes clinically manifest at or shortly after birth is exceptional. Even in grave cases the Coombs direct test may be weakly positive, in some cases even negative. Most cases of ABO erythroblastosis occur in children with O mothers. The authors have now seen two additional cases, in both of which the mother was type O, the child type A. In one case exchange transfusion was carried out as in the case reported, in the other, with marked jaundice, the hemoglobin per cent was normal and exchange transfusion was omitted.

Prolonged Neonatal Jaundice as Guide to Early Diagnosis of Congenital Myxedema. Y. Åkerrén. Nord. med. 52:1759-1761 (Dec. 16) 1954 (In Swedish) [Stockholm, Sweden].

On the basis of a personal case and cases from the literature Åkerrén calls attention to the not infrequent coincidence of neonatal jaundice of physiological type with duration of six weeks or more and congenital myxedema. The association is believed not to be accidental. Acquaintance with the syndrome should facilitate early diagnosis of congenital myxedema and thus allow timely start of treatment. In cases of neonatal jaundice of unusually prolonged duration but of physiological type observation and control are advised until the diagnosis of congenital myxedema can be made or excluded.

DERMATOLOGY

Clinical Experiences with Isonicotinic Acid Hydrazide in Treatment of Cutaneous Tuberculosis. E. Paulus and W. Sevin. Medizinische No. 4, pp. 150-158 (Jan. 22) 1955 (In German) [Stuttgart, Germany].

Paulus and Sevin have used isonicotinic acid hydrazide (isoniazid) since May 1952 in the treatment of 133 patients with cutaneous tuberculosis. The largest group, namely, 114 patients,

had lupus vulgaris. All execpt 13 of these had previously been treated with other chemotherapeutic substances or with vitamin D_2, without complete success. Isoniazid was usually given in daily doses of from 0.3 to 0.4 gm. and, after from four to six months, with total doses of from 35 to 60 gm., the lupus lesions were usually healed. In some cases healing was completed at the end of two months. At the present, 95 of the patients are free from specific tuberculous changes, but the treatment is regarded as completed in only 60 patients, of whom 43 have been reexamined. Relapse has occurred in none of these. Of the remaining patients four had tuberculosis colliquativa (scrofuloderma). One of these patients, who was rather advanced in age, had 35 fistulas, chiefly in the region of the shoulder and the neck. At the end of six weeks of treatment, during which a total of 23 gm. of isoniazid was administered, all fistulas had closed. A similarly favorable effect was obtained in a patient who had had three fistulating ulcers on the left leg for about 12 years. These ulcers healed after 12 weeks of treatment. The other two patients of this group are still receiving treatment. All three of the patients with tuberculosis verrucosa cutis responded favorably to isoniazid within a few weeks. Of the remaining 11 patients who had tuberculids, nine had tuberculosis indurativa and two had papulonecrotic tuberculids. Since these tuberculids sometimes heal spontaneously, the evaluation of the efficacy of isoniazid is difficult, but the authors gained the impression that the drug had exerted a favorable effect. In seven of the nine patients with tuberculosis indurativa, the process healed under isoniazid therapy, even in those who failed to respond previously to *p*-aminosalicylic acid, amithiozone, and roentgen irradiation. In patients with ulcers, epithelization took place in the first four to six weeks after treatment with isoniazid had been instituted. Isoniazid therapy failed in none of the patients, that is, the favorable results obtained by other investigators were corroborated. Daily doses of between 4 to 6 mg. of isoniazid per kilogram of body weight were usually adequate. As a rule it is advisable to continue this dosage for from three to four months after clinical cure, because tubercle bacilli may persist after apparent cure. Serious secondary effects were not observed, but when isoniazid therapy is given to ambulatory patients the leukocyte count should be checked from time to time.

Treatment of Chronic Lupus Erythematodes: Local Intradermal Infiltration with Acridine Preparations. F. Ottolenghi-Lodigiani. Hautarzt **6**:24-27 (Jan.) 1955 (In German) [Berlin, Germany].

Ottolenghi-Lodigiani reported on the intradermal injection of from 5 to 10% solution of quinacrine hydrochloride (Atabrine) into foci of lupus erythematosus in 1948 and subsequently. Epinephrine as well as an anesthetic are added to the solvent. The quantity of quinacrine solution injected should be sufficient to form a wheal. Whereas in small lesions, a single injection is sufficient, in larger foci several may be necessary. In some cases one intradermal administration of quinacrine solution is effective, in others, however, this treatment has to be repeated several times at 10 day intervals. The favorable results reported in recent years with the oral administration of quinacrine in lupus erythematosus induced the author to combine the local with the oral administration of quinacrine. He reports his observations with this combined treatment in 15 patients. Together with the intradermal injections, the patients are given three times daily 0.1 gm. of quinacrine by mouth for a period of 10 days. If necessary, this course of treatment may be repeated from two to four times with interruptions of one week. Twelve of the 15 patients were cured with this combined therapy and 3 were greatly improved. Four of the patients experienced recurrences. That the therapeutic effect was not exclusively due to the oral administration of quinacrine was proved by the fact that, in patients with very extensive lesions in whom the intradermal injections were made only in some of the lesions, the treated lesions responded more rapidly, or were the only ones to respond. The favorable effect of local infiltration was especially noticeable in lesions with considerable hyperkeratosis and atrophy, which at times were only slightly influenced by the systemic treatment.

PHYSIOLOGY

Aldosterone: Biological and Clinical Effects. R. S. Mach, E. Mach and J. Fabre. Semaine hôp. Paris. **31**:67-70 (Jan. 6) 1955 (In French) [Paris, France].

The history of the isolation of aldosterone, first named electrocortin because of its influence on electrolyte balance, is described. Present knowledge is summarized concerning this hormone's effects on water and electrolyte metabolism, on carbohydrate metabolism, on the formed elements of the blood, and on inflammatory processes, and its inhibitory action on the hypophysis. In patients with adrenal cortical hypofunction (Addison's disease), aldosterone abolishes the clinical manifestations of the insufficiency within a few hours, and that in doses 20 to 30 times weaker than those needed of desoxycorticosterone. The effects of hyperpigmentation are seen after a few days' treatment. Aldosterone has been identified with the "sodium-retaining factor" that is absent from the urine of persons with hypoadrenocorticism and present in increased amounts in persons with lipoid nephrosis, congestive heart failure, and hepatic cirrhosis. It produces retention of sodium and chlorine and increases urinary excretion of potassium. In the authors' two patients with adrenal cortical hypofunction, no pathological water retention or arterial hypertension was induced by administration of this agent, nor was there a drop in the number of eosinophils. Recently, Luetscher, Neher, and Wettstein were able to obtain 1,000 mcg. of crystallized aldosterone from urine specimens collected over a 13-day period from a child with lipoid nephrosis. The two lines of research that must be pursued in rélation to aldosterone are its isolation in crystalline form on a large scale (in view of its great value in the treatment of adrenal cortical insufficiency), and its identification in the body fluids (for further studies of its role in salt and water regulation).

Experimental Research on the Physiopathology of Circulation During Artificial Hibernation: II. Behavior of Venous System. G. Brancadoro, M. Ursini, N. Cocchia and others. Gior. ital. chir. **10**:945-957 (Dec.) 1954 (In Italian) [Naples, Italy].

The authors' experimental studies revealed that artificial hibernation always produces a slow, gradual, and progressive venous hypertension. Their earlier studies on the arterial circulation had indicated that on the other hand it produces arterial hypotension. From 98.6 to 86 F (37 to 30 C) the venous hypertension is active, namely, it is due, for the most part, to the venous tone, which is not changed by the hibernation. Slackening of the blood flow and stasis intervene, as factors of passive hypertension, at temperatures below 86 F. Until this body temperature is reached, the systemic and the pulmonary circulation are independent of each other and react efficaciously and quickly, as they do in normal condition, to various mechanical (compression of the carotid sinus) and pharmacodynamic stimulations. Below this temperature all stimulations remain without effect. Sometimes the pulmonary circulation may still react at temperatures of 84.2 to 82.4 F (29 or 28 C). The authors explain this behavior by advancing the hypothesis that the chemoreceptors of the pulmonary arteries feel later and to a lesser degree the effects of the pharmacological blocking of the autonomic nervous system. They ascribe the behavior of the arterial and venous circulation during hibernation to a nervous factor. It could not be caused by the ganglioplegics because the response to the stimulations was absent only at a certain temperature and also because the action of the ganglioplegics was always reversible even after prolonged administration. Therefore, hypothermia alone acts through a probable mechanism of central origin causing functional lesions that are irreversible when the temperature reaches very low values. The authors conclude that the lowest body temperature within which the cardiovascular system can maintain efficiently its activity and functional reactivity is around 86 F. Unlike many authors, they therefore feel that in artificial hibernation the body temperature should never be lowered to values below 86 F.

BOOK REVIEWS

A Textbook of Neurology. By H. Houston Merritt, M.D., Professor of Neurology, Columbia University, New York. Cloth. $12.50. Pp. 746, with 181 illustrations. Lea & Febiger, 600 S. Washington Sq., Philadelphia 6, 1955.

The rapid expansion of neurology, with its face turned more toward internal medicine than to psychiatry, as in the past, has caused a radical change in the discipline. This is evident in this new American textbook. All descriptions of psychiatric diseases and even an account of the psychoneuroses have been eliminated. Quite rightfully, also, the usual outline of neuroanatomy and the details of the neurological examination are omitted, the author believing that these subjects are better handled in separate monographs. Thus the old, comprehensive "Diseases of the Nervous System" passes away, without regret. The influence of biochemistry on medicine is the chief factor that has changed the picture, and the encyclopedic text is outdated by the rapid advances of chemistry and physiology. The author's qualifications in both clinical and research neurology are outstanding. His book, therefore, reflects the best of neurology as practiced in advanced medical centers. References to the important literature, chosen with care and relatively few in number, are given at the end of each section of the book. Treatment is middle-of-the-road, as it should be. No errors were noted in text or bibliography. The illustrations are adequate. The practitioner may wish for a little more about treatment, but the author, in his conservative evaluation, gives all that his subject indicates. Details of procedure can easily be found elsewhere. The book should find a warm welcome because it is authoritative, comprehensive, and easily used. A full index is an outstanding feature, but the strength of the book lies in the author's deep understanding of neurology and in his ability to present the facts, clearly, concisely, and with mature judgment.

Principles of Occupational Therapy. Edited by Helen S. Willard, B.A., O.T.R., Professor of Occupational Therapy, University of Pennsylvania, School of Auxiliary Medical Services, Philadelphia, and Clare S. Spackman, B.S., M.S., O.T.R., Associate Professor of Occupational Therapy, University of Pennsylvania, School of Auxiliary Medical Services. Second edition. Cloth. $5.50. Pp. 376, with 61 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2, England; 2083 Guy St., Montreal, Canada, 1954.

The work of 19 contributors has been brought together in this text with much less repetition than might be expected. The text includes a section on the historical development of occupational therapy, its scope, educational aims, and fundamental activities, such as the graphic arts, fine arts, and handicrafts, used in occupational therapy, and the organization of departments of occupational therapy. The primary principles of occupational therapy applied to various types of both mental and physical disabilities in patients of all ages are presented. The book contains bibliographies in each section. It should help to place occupational therapy on a sound footing as an adjunct to total medical care.

Techniques de réanimations médicale et de contrôle de l'équilibre humoral en médecine d'urgence. Par J. Hamburger, et al. Préface de Pasteur Vallery-Radot. Cloth. 2600 francs. Pp. 360, with 71 illustrations. Ernest Flammarion, 22 rue de Vaugirard, Paris VIe, France, 1954.

The purpose of this book is to explain the procedures necessary to save life in the absence of complete knowledge of the cause of an illness. To the authors, symptoms like dyspnea and hypotension may represent emergencies in themselves; they represent loss of equilibrium in some humoral system, whether respiratory or circulatory, and constitute a threat to the patient's life. They may demand immediate action regardless of the nature of the trauma or infection that brought them about. The authors therefore analyze the neurohumoral regulatory mechanisms of the body and show how such upsets as hyperhydration, anoxemia, and shock can be corrected. This is a large subject, and the authors apologize for the oversimplification and undue brevity of some of their observations. Some readers will complain of the copious basic material from physiology and chemistry. The book is certainly not one to be picked up in emergencies; it tells only how to prepare, well in advance, for the kinds of emergency seen by an internist. It gives detailed directions for such laboratory procedures as the determination of alkaline reserve and prothrombin time. The subject matter is sound, up-to-date, and in harmony with concepts prevailing in the United States. The legend to plate 1 on artificial respiration needs to be corrected, since Holger Nielsen is one person, not two. There is a subject index. The book is of interest mainly as a summary of European thinking on shock and related medical emergencies.

Haematological Technique for Medical Laboratory Technicians and Medical Students. By E. M. Darmady, M.A., M.D., F.R.C.P., Senior Pathologist, Portsmouth and Isle of Wight Area Pathological Service, Portsmouth, England, and S. G. T. Davenport, F.I.M.L.T., Chief Technician, Portsmouth and Isle of Wight Area Pathological Service. Cloth. $3. Pp. 197, with 27 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16; J. & A. Churchill, Ltd., 104 Gloucester Pl., Portman Sq., London, W.1, England, 1954.

This is a small, concise reference book for the use of technicians and students. The methods and references are predominantly those used in England. There are three chapters on the recognition of cells, nine on technical methods, and nine on individual diseases and disease types. While some of the directions are explicit and clear, others require a knowledge of general chemical and laboratory methods to carry out the manipulations. The plates and figures are clear.

Clinical Neurosurgery: Proceedings of the Congress of Neurological Surgeons, New Orleans, La. [Volume I]. Cloth. $8. Pp. 201, with 90 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1955.

Sir Geoffrey Jefferson of Manchester, England, is one of the most beloved of contemporary neurosurgeons. This volume is dedicated to him, and over half of it consists of papers written by him. In one of these, the first in the book, he is at his whimsical best. It deals with the functional activity of the brain, particularly in relation to the brain stem. A few sentences in this chapter illustrate his style and are worthy of wide acquaintanceship: "It must be conceded that the experts in building and using computing machines are not to be derided for suggesting that they can fill in some of the blank spaces in the physiology of thought. It is unfortunate that they have pressed their ideas in so domineering a fashion as to suggest that anyone who is not immediately persuaded of the correctness of their view is either excessively stupid, reactionary, or a firm believer in the supernatural. This is undeserved. It probably will be the case that developments in communication engineering will bring better suggestions than any yet made. It is to be hoped that they will be put forward more in the spirit of 'Let us see how it would be if so and so,' rather than, 'This is it, stupids.' "

The second and third chapters are fine examples of clinical exposition. One concerns trigeminal neurinomas, the other involvement of the optic pathways by intracranial aneurysms.

The second half of the book consists of a nearly verbatim report of symposiums on (1) the anatomy and physiology of the frontal lobes, (2) psychosurgery, and (3) fluids and electrolytes in neurosurgery. Recent years have seen an increasing tendency to publish these stenographic reproductions of symposiums and round-table discussions. Unfortunately they are seldom worth the time, effort, ink, and paper essential to their production. These are no exception. The extemporaneous presentation that at the time seems sparkling often loses much of its charm when set down in black and white, divorced from the voice and personality of the speaker and the stimulation of the occasion. The composition of prose worthy of being preserved in print can rarely be accomplished on the spur of the moment. It is to be hoped that the Congress of Neurological Surgery will not continue to publish similar volumes in the future.

These book reviews have been prepared by competent authorities but do not represent the opinions of any medical or other organization unless specifically so stated.

QUERIES AND MINOR NOTES

TINTED GLASS IN MOTOR CARS

To the Editor:—*I am interested in getting a new car and have found that in the windshield only a small strip at the top is tinted while the rest is clear glass. The remaining glass in the doors and rear window is tinted glass completely. I should like to know if this type of tinting applied to the windshield is safe for driving.* *M.D., California.*

Answer.—In the report of the Committee on Optics and Visual Physiology (*Tr. Am. Acad. Ophth.* 57:953 [Nov.-Dec.] 1953), the final recommendations regarding the use of tinted lenses and tinted windshields were as follows: 1. Inasmuch as any reduction in the amount of light reaching the eye at low levels of illumination reduces visual functions and especially detection distance, it is recommended that no filters of any type be interposed between the eye of the driver of the car and the road. This to apply to so-called night driving lenses and to colored windshields. 2. It is recommended that only clear glass be used in automobile windshields. It is believed that manufacturers should be encouraged to use the clear heat-absorbing glass, which absorbs only the infrared and allows all the visible light to pass.

VIRAL HEPATITIS

To the Editor:—*Is there any danger in giving a patient with probable recurrent viral hepatitis the therapeutic course of Chloroquine necessary to treat amebic hepatitis? The patient has a positive Craig test and a history of previous diarrhea and abdominal cramps but has had at least a dozen negative stool specimens. I believe that a trial of Chloroquine is indicated for this patient, provided there is no possibility of aggravating the liver damage if amebiasis is not the cause of the hepatitis.* *Frank V. Hoffman, M.D., Long Beach, Calif.*

Answer.—There is no danger in using Chloroquine in a case of recurrent hepatitis unless the degree of liver damage is exceedingly severe. Occasionally some of the flocculation tests may be temporarily increased by this drug. Actually, it is highly desirable to give Chloroquine to most if not all patients with recurrent hepatitis, since amebiasis is frequently the cause of the recurrence. Not infrequently the recurrent or persistent hepatitis is entirely on an amebic basis, while at other times the associated amebiasis appears to prevent recovery from viral hepatitis.

DISSOLVING RESIDUAL GALLSTONES

To the Editor:—*Is it practical to attempt to dissolve or break down cholesterol stones in the common duct with the T-tube in place? The gallbladder was removed and common duct explored three weeks ago and a large number of stones removed. The hepatic ducts were dilated, and it seems likely that these stones slipped down after the common duct was closed.* *Alfred H. Hathcock, M.D., Fayetteville, Ark.*

Answer.—An extensive investigation has been made concerning the possibility of dissolving residual gallstones left behind in the common duct at the time of surgery since Pribram first wrote about this subject. It is quite possible to dissolve these residual stones provided that both the patient and the physician have the requisite amount of patience and self-discipline. Irrigation of the common duct through an indwelling T-tube using ether as the solvent is the most practical method at present. Most patients tolerate this irrigation, but in some cases the pain is intolerable and the method does not succeed. The patient should be instructed to irrigate the duct himself and should carry out this irrigation as many times each day as he can tolerate. The passage of ether into the duodenum occasions surprisingly little distress in most patients, although some display varying degrees of anesthesia. Daily irrigations for many weeks are often required. Biweekly cholangiograms give the physician a valuable check on the probable success of the procedure.

PROLONGED PREGNANCY

To the Editor:—*What is the feeling of obstetricians concerning postmaturity? Is the "postmaturity syndrome" a recognized clinical entity? Is it ever advisable to interrupt a pregnancy solely on the basis of postmaturity?*

Oswald J. Nickens, M.D., Pittsburgh.

Answer.—For practical purposes a prolonged pregnancy usually is considered one in which labor fails to occur within two weeks of the expected date of confinement, when the computation is based on the first day of the last menstrual period. Most obstetricians are not concerned about the outcome of such pregnancies and permit them to continue until labor starts spontaneously. Some obstetricians favor the induction of labor. This has the disadvantage of producing, in some cases at least, a poor quality of labor. Still other obstetricians are guided by the condition of the cervix and the size of the infant. If the cervix exhibits no signs of beginning dilatation or effacement, they consider that term has not been reached and do not interfere, especially if the infant appears to be of average size. If the cervix is considered to be ripe, and if the infant appears to be larger than average, they are likely to induce labor. Although a postmaturity syndrome has been described, it is not generally recognized as a clinical entity.

TRIGEMINAL NEURALGIA

To the Editor:—*I have seen several patients with the diagnosis of trigeminal neuralgia, with involvement of the maxillary division. The site of pain has been only in those areas supplied by the nerve after its exit from the infraorbital foramens; that is, the inferior palpebral, lateral nasal, and superior labial areas of distribution. Injection with alcohol at the infraorbital foramens has given good but not prolonged benefit. What result could be expected from division of the nerve at its exit from the infraorbital foramens? Studies to determine cause have been negative.*

Joseph F. Campana, M.D., Williamsport, Pa.

Answer.—Division or avulsion of the infraorbital nerve at its exit from the infraorbital foramen also will give only temporary relief from pain, although somewhat more prolonged than that usually obtained from the injection of alcohol. The only permanent relief that can be obtained with certainty is from the well-established procedure of partial section of the trigeminal nerve back of the gasserian ganglion. This is a simple and safe operation in the hands of a competent neurosurgeon and should be recommended in cases of trigeminal neuralgia where the pain has recurred or has not been relieved by injection of alcohol or division of the infraorbital nerve.

HIRSUTISM

To the Editor:—*It has been suggested that estrogenic substances injected intracutaneously or subcutaneously will act as a depilatory. Is this true? What other methods are suggested when the hair is on the face in the female?*

R. J. Foster, M.D., New Philadelphia, Ohio.

Answer.—Estrogenic substance injected intracutaneous or subcutaneously has no worth-while depilatory effect, and such procedures are contraindicated. Electrolysis may be used to remove localized areas of excessive facial hair. Marked hirsutism in the female warrants an endocrine evaluation of the ovary and adrenal cortex, particularly if the hirsutism is of recent onset.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any medical or other organization unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.